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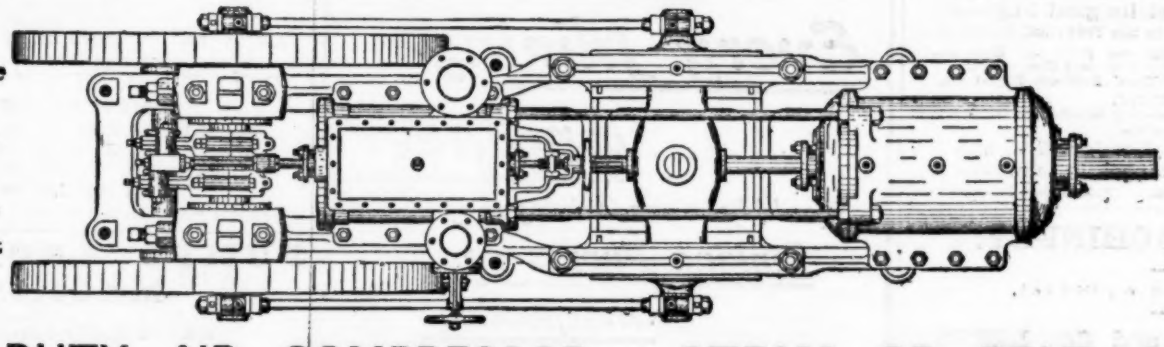

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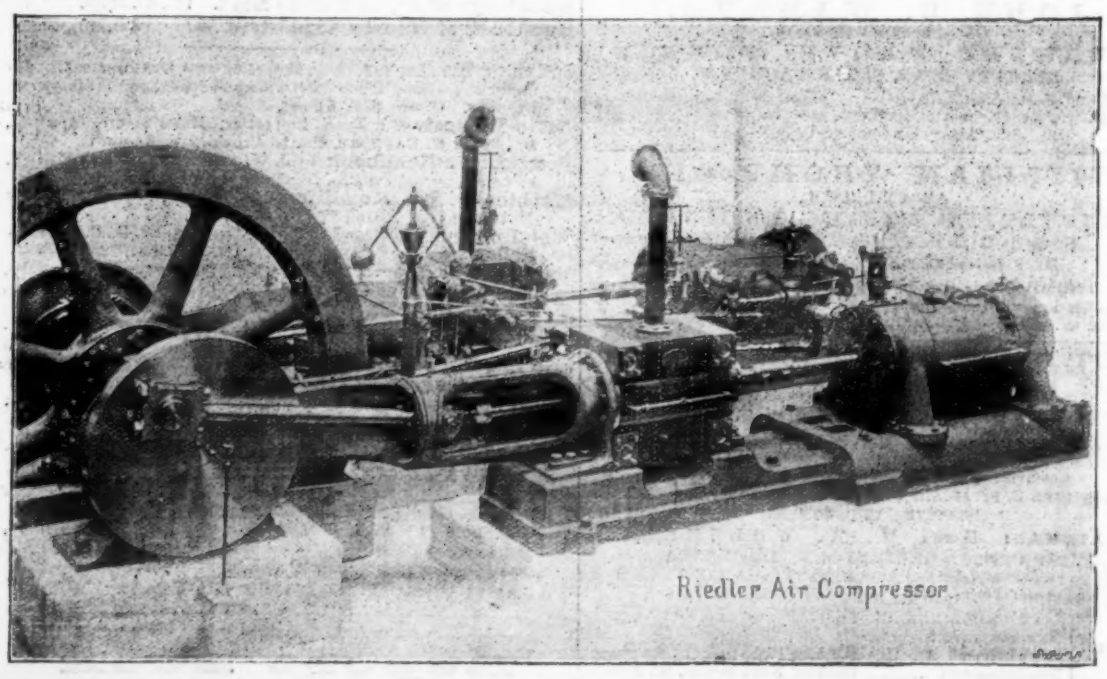

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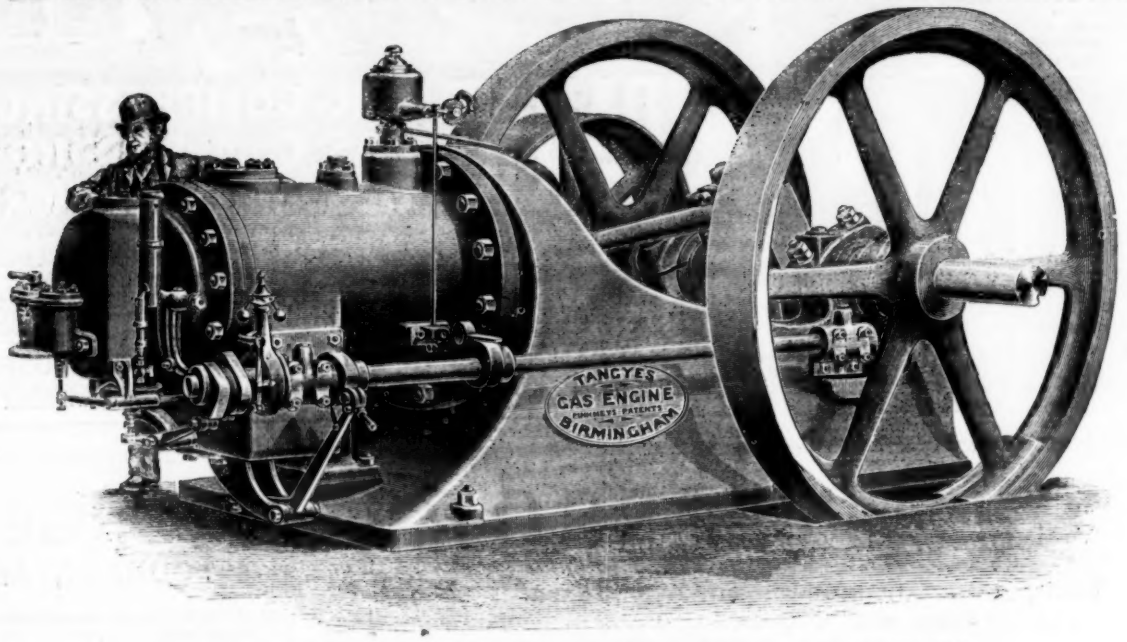

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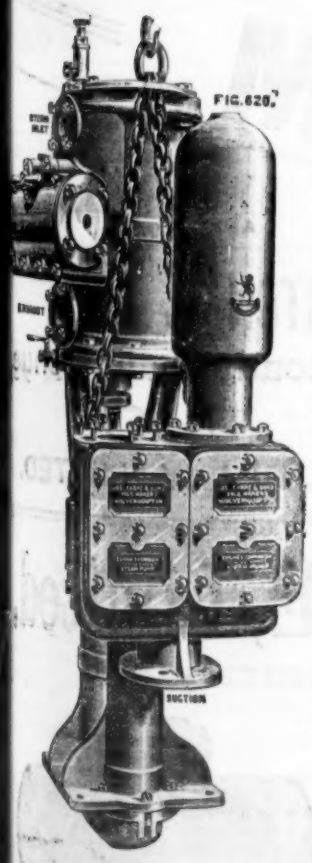


"GRIFF" PATTERN "CORNISH" SINKING PUMP.

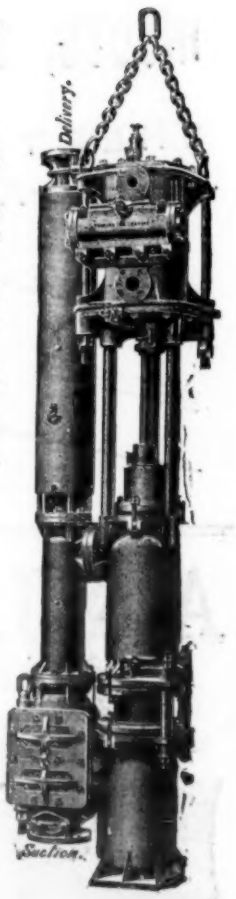
London Office
16, UNION COURT, OLD BROAD ST.
E.C.

DEPOTS:
NEWCASTLE-ON-TYNE.
GLASGOW, WAKEFIELD,
MANCHESTER,
CARDIFF, and BELFAST.

JOHANNESBURG.
Etc.

FIG. 875, "FLUOMETER" PATENT STEAM VACUUM PUMP.

The "CORNISH" STEAM PUMP.
The "DUPLEX" STEAM PUMP.
The "RAM" STEAM PUMP.
The "RELIABLE" STEAM PUMP.
DONKEY PUMPS.
HORSE PUMPS.
POWER PUMPS.
AIR COMPRESSORS,
&c.



"STRAIGHT-LINE" PATTERN SINKING PUMP

CULWELL WORKS,

WOLVERHAMPTON.

WALKERS'
"PATENT"
INDESTRUCTIBLE
VENTILATING FANS
FOR MINES, TUNNELS, &c.
CONSTRUCTORS OF THE VENTILATING MACHINERY AT THE SEVERN AND MERSEY TUNNELS.

PATENT ANTI-VIBRATION SHUTTER
Applicable to all enclosed Fans

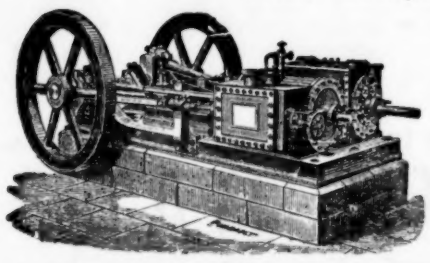
WALKER BROTHERS
Engineers,
Pagefield Ironworks,
WIGAN.

PATENT AIR COMPRESSING ENGINES
GAS COMPRESSING ENGINES
BESSEMER BLOWING ENGINES

upwards of 400 of the above now AT WORK indicating in the aggregate 150,000 Horse-Power

Fisher & Walkers' Patent Friction Clutch & Underground Haulage Machinery
THIS GEARING IS NOW EXTENSIVELY IN USE FOR HAULAGE PURPOSES.
The objects attained are SIMPLICITY, ENDURANCE OF THE MACHINERY AND ROPES with a MINIMUM EXPENDITURE OF POWER.

AIR COMPRESSORS
With Compound Air and Steam Cylinders,
Fitted with SCHRAM'S Inlet and Outlet Valves giving the greatest efficiency.

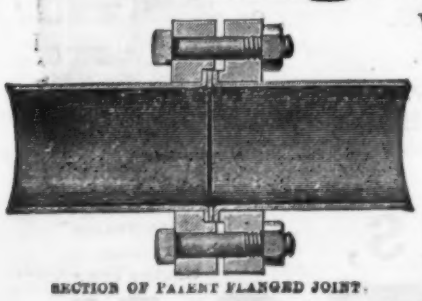


SCHRAM'S IMPROVED
Rock Boring Machines.
Supplied to the Indian, Colonial, and other Governments.
2500 IN USE in all PARTS of the WORLD.
DIAMOND PROSPECTING DRILLS.
"OPTIMUS" COMPOUND ROCK DRILL.
(P. J. OGLE'S PATENT.)
Consumes 40 per cent. less Compressed Air than any other Drill at the same time giving the most effectual results.
ESTIMATES AND FULL PARTICULARS ON APPLICATION.
RICHARD SCHRAM & CO., 17a, Great George Street, Westminster, S.W.
TELEGRAMS. "SCHRAM, LONDON," A1, A.B.C. and The Engineering Telegraph Codes Used.

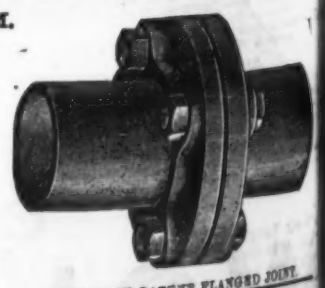
GEORGE GREEN
FOUNDRY, ABERYSTWYTH.
SILVER MEDALS AWARDED AT THE ROYAL CORNWALL POLYTECHNIC, 1872 & 1876; GOLD MEDAL AWARDED AT THE GREAT INTERNATIONAL MINING EXHIBITION, CRYSTAL PALACE, 1890.
ONLY AWARDS GIVEN FOR CONCENTRATION PLANT
GREEN'S LATEST IMPROVED
Self-Acting or Automatic
Ore Dressing Machinery.
A Special Plant, on a reduced scale, has been erected at the Works by which samples of METALLIC ORES up to Five Tons may be treated, and the commercial value determined. In this way the most suitable arrangement of Plant is ascertained, a considerable advantage to intending Purchasers of Crushing and Concentrating Plant.
GOLD STAMP AND OTHER MILLS.
Estimates, Catalogues, and Full Particulars on Application.
Telegrams—Green, Foundry, Aberystwyth.

For PURE ALUMINIUM
98 to 99½ per cent. (98 per cent. minimum guaranteed) in
INGOTS, STICKS, & ROLLING SLABS;
ALSO FOR
SHEETS, &c., AND
FERRO-ALUMINIUM.
ALUMINIUM.
APPLY TO
HENRY R. MERTON & CO.,
2, Metal Exchange Buildings, Leadenhall Avenue,
LONDON, E.C.
AGENTS FOR THE BRITISH ALUMINIUM COMPANY, LIMITED.

A. & J. STEWART and CLYDESDALE, Limited.
Glasgow, Coatbridge, and Mossend.
WROUGHT IRON WELDED TUBES and FITTINGS for GAS, WATER, and STEAM.
Light Lap-welded Wrought-iron and Steel Tubes
(SPECIALLY ADAPTED FOR MINES).
With Patent Flanged Joints (as illustrated) for the Conveyance of Water, Steam, and Air, at High and Low Pressures.
LAP-WELDED IRON AND STEEL BOILER TUBES
FOR LOCOMOTIVE, MARINE, AND OTHER MULTITUBULAR BOILERS.
STEEL & IRON PLATES FOR BOILERS, BRIDGES, &c.



SECTION OF PATENT FLANGED JOINT.



PLAN OF PATENT FLANGED JOINT.

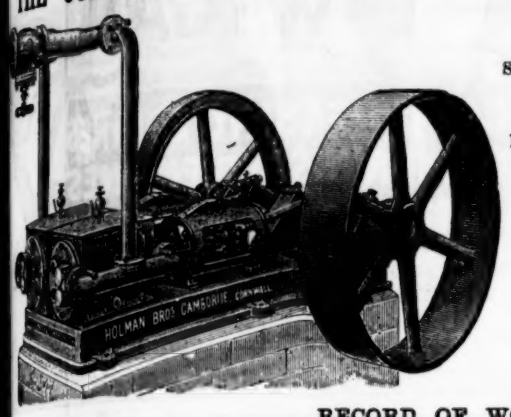
Head Offices: 41, OSWALD STREET, GLASGOW.

HOLMAN Bros., Camborne, Cornwall.

ESTABLISHED 1839.

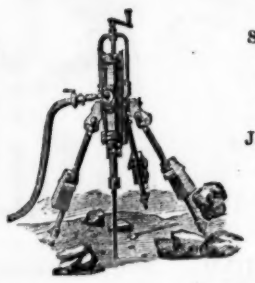
Patentees and Sole Makers of

"THE CORNISH" ROCK DRILL and "THE CORNISH" COMPRESSOR.



FIRST SILVER MEDAL, Highest Award, Mining Institute Contest, 1881.

Three Makers represented.



FIRST SILVER MEDAL Highest Award, Royal Cornwall Polytechnic Jubilee Exhibition Contest, 1882.

Five Makers represented.

AWARDED SILVER MEDAL INTERNATIONAL INVENTIONS EXHIBITION, 1885.

RECORD OF WORK DONE

At Botallack Mine, St. Just, Cornwall, **TWELVE MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** ...ve, sunk, and rose **288 FATHOMS** in **12 MONTHS,** equal to five times the Speed of Hand Labour

At Wheal Grenville Mine, Camborne, Cornwall, **SIX MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** started from the **150 FATHOMS** level and put up in **EIGHT MONTHS** a **11 FEET** by **FEET PERPENDICULAR RISE 46 FATHOMS 5 FEET 6 INCHES,** and about midway drove **FATHOM 5 FT.** No communication of any kind was effected until holing to the Shaft brought down from surface.

Estimates for ROCK BORING PLANT and GENERAL MINING MACHINERY on Application.

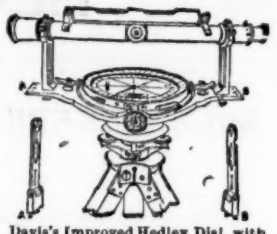
London Offices: 7 and 9, LEADENHALL BUILDINGS, E.C.

JOHN DAVIS AND SON,

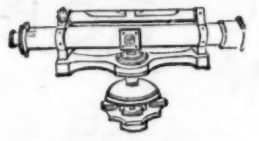
ALL SAINTS WORKS, DERBY;

118, NEWGATE STREET, LONDON.

Transit Theodolite with Patent Hoffman Tripod Head, and Trough Compass.



Davis's Improved Hedley Dial, with Telescope and Sights Interchangeable and Patent Hoffman Tripod Head



Dumpy Level with Hoffman Patent Tripod Head.

MINING, SURVEYING, AND ENGINEERING INSTRUMENTS.

THEODOLITES. LEVELS. TACHEOMETERS.

INSTRUMENTS CONSTRUCTED IN ALUMINIUM.

Davis's Improved Hedley Miners' Dials, with HOFFMAN PATENT TRIPOD HEAD;

AND ALL DESCRIPTIONS OF MATHEMATICAL AND MINING SURVEYING INSTRUMENTS.

BRASS FOUNDERS AND FINISHERS.

Revised Illustrated Catalogues Free to any Part of the World.

SECTION (A) MATHEMATICAL DEPARTMENT AND SAFETY LAMPS

SECTION (B) ELECTRICAL LIGHTING AND POWER DEPARTMENT.

A. B. C. CABLE CODE, 4TH EDITION.

AWARDS: CRYSTAL PALACE, 1890; TASMANIA, 1891; KIMBERLEY, 1892.

CONCENTRATION.

The Clarkson-Stanfield Ore Reduction Co. (Limited).

In the CLARKSON-STANFIELD process of Concentrating Refractory and Complex Ores no water is required; dust is reduced to a minimum; the loss of Mineral through water-borne Slimes is obviated.

OUTPUT ½ TO 2 TONS PER HOUR, ACCORDING TO SIZE OF MACHINE.

CONCENTRATOR TO BE SEEN IN OPERATION AT THE COMPANY'S ONLY ADDRESS,

6, COLONIAL AVENUE, MINORIES, LONDON, E.

The Machine is superior to Sieves for Sizing Homogeneous Substances, such as Emery, Sand, and Powders, and may be used to great advantage in the preparation of Ochre.

N.B.-The owners of the Carndochan Mine, near Bala, North Wales, will, by arrangement, show their CLARKSON-STANFIELD plant working on a Refractory Low Grade Gold Ore.

NEW PATENTS.

List of APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs Rayner and Company, Patent Agents, 27, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

[illegible] Sebastian Ziandi De Ferranti, Hollinwood, Oldham.—Improvements in steam and other engines.—November 9.

[illegible] Sebastian Ziandi De Ferranti, Hollinwood, Oldham.—Improvements in roller and ball bearings.—November 9.

[illegible] John Fairlamb Paxton, 52 Walker Terrace North, Gateshead-on-Tyne.—Improvements in the apparatus for regulating the amount of feed water to boilers or other receptacles.—November 9.

[illegible] Edmund Edwards, 65, Chancery Lane, London.—Improvements in furnaces for steam boilers and other purposes (Auscharpwinkel, Germany).—November 9.

[illegible] William Wanless, 45, Southampton Buildings, Chancery Lane, London.—Improvements in apparatus for dressing and sharpening rock drills and the like.—November 9.

[illegible] John Dought, 37, Choir Street, Boughton Lane, Manchester.—Improvements in or relating to cast iron boilers.—November 10.

[illegible] Francis Dixon Bansted, 46, Lincoln's Inn Fields, London.—Improvements in steam boiler furnaces.—November 9.

[illegible] John Gilmour, 70, Wellington Street, Glasgow.—Improvements in water tube boilers.—November 11.

[illegible] Arthur Griffith, 6, Lord Street, Liverpool.—An improved rotary water motor or pumps.—November 11.

[illegible] Howard Osborn Cowper-Coles, 47, Lincoln's Inn Fields, London.—Improvements in the recovery of zinc or of zinc and other metals from zinc ores.—November 11.

[illegible] Howard Osborn Cowper-Coles, 47, Lincoln's Inn Fields, London.—Improvements in the treatment of slimes or tailings pulp containing gold for the recovery of gold therefrom.—November 11.

[illegible] Samuel Butterworth, 71, Market Street, Manchester.—Improvements in or in connection with steam boiler furnaces.—November 12.

[illegible] William Phillips Thompson, 6, Lord Street, Liverpool.—Improvements in the manufacture of steel (La Société Civile d'Etudes du Syndicate de l'Acier Gerard, France).—November 12.

[illegible] James Hermann Rosenthal, 62, St. Vincent Street, Glasgow.—Improvements in feed water purifiers for steam generators.—November 13.

[illegible] Edward Makin, junior, 17, St. Anne's Square, Manchester.—Improvements in steam generators and superheaters and water heaters.—November 13.

[illegible] Alfred William Knotts, 7, Circus Street, Greenwich, London.—Improvements in steam boilers.—November 13.

SPECIFICATIONS PUBLISHED.

[illegible] Brown (Orevallina).—Means for the production of metal castings.

[illegible] Brown (Orevallina).—Moulds for casting metals.

[illegible] Pennell.—Rotary apparatus for calcining materials.

[illegible] Hill-y.—Apparatus for revivifying spent limes, and for calcining arsenic and ores or like materials.

The above specifications published may be had of Messrs. Rayner and Co., 35, Chancery Lane, London, at 10d. each, including postage.

A WEST YORKSHIRE COAL STRIKE ENDED.—Work was resumed on Monday at the Allerton Collieries, West Yorkshire, where 1000 men had been on strike for a week owing to four of their number having been dismissed in consequence of disputes as to the manner of getting the coal. The points in dispute are to be settled by a joint committee, which will meet at Barnsley. The men dismissed have been reinstated.

JOINT-STOCK COMPANIES.

NEW REGISTRATIONS.

THE following are among the joint-stock companies registered at Somerset House since our last notice:—

National Mining and Finance Corporation (Limited).—Registered November 11 by J. A. Maxwell, 77 and 78, Bishopsgate Street, E.C. (capital £75,000 in £1 shares—72,500 ordinary and 2500 deferred)—to acquire any miner, mining rights, &c., in New Zealand, and to develop, deal with, and turn to account the same in such manner as the company shall see fit; to employ and dispatch agents, mining experts, exploring parties, &c., and to carry on business as miners and smelters generally.

North-Western Associated Gold Mines, W.A. (Limited).—Registered November 11 by Jenkins, Baker, and Co., 134, Fenchurch Street, E.C. (capital £375,000 in £1 shares), to acquire any mines, mining rights, claims, protected areas, ores, minerals, alluvial deposits, forests, lands, easements, or premises in Western Australia or elsewhere; to develop, deal with, and turn to account the same in such manner as the company shall fit, and to carry on the business of a mining, milling, smelting, and metallurgical company in all or any of its branches. Registered office, 34, Old Broad Street, E.C.

United Kingdom and Westralian Gold Syndicate (Limited).—Registered November 9. Capital £10,000, in £1 shares. Objects: To search for, prospect, examine and explore mines and ground supposed to contain minerals or precious stones, and to enter into a certain agreement.

Helderfontein Land and Mining Syndicate (Limited).—Registered November 13. Capital £10,000, in £1 shares. Objects: To enter into an agreement with F. Kirk, and to acquire, deal with and turn to account lands or hereditaments in South Africa or elsewhere, and particularly the Helderfontein farm.

London and Hamburg Gold Recovery Company (Limited).—Registered November 13 by Ashurst, Morris, Crisp, and Co., 17, Throgmorton Avenue, E.C., with a capital of £200,000 in £1 shares. Object: To adopt and carry into effect an agreement expressed to be made between the Anglo-Continental Gold Syndicate (Limited) of the one part and this company of the other part; to work and develop the process and patents mentioned in the said agreement, and to reduce ores of all kinds. The number of directors is to be not more than ten nor less than three. The first are the first three subscribers. Qualification, £500. Remuneration, 10 per cent. of the dividends, divisable. Registered office, 22, Austinfriars, E.C.

Asia Minor Company (Limited).—Registered November 12, Ashurst, Morris, Crisp and Co., 17, Throgmorton Avenue, E.C. (capital £90,000 in 10s. shares). Objects: To adopt and carry into effect an agreement expressed to be made between the Asia Minor Company (Limited) (in liquidation) of the first part, and this company of the other part, to purchase, acquire, and work certain silver lead mines, situate near Lidjessy, in the province of Sirab, Asia Minor, and to develop, deal with, and turn to account the same in such manner as the company shall see fit. Registered office, Finsbury House, E.C.

London Carbonic Acid Company (Limited).—Registered November 10 by Hurrill and Co., 33, Cornhill (capital £6,000, in £1 shares), to purchase or otherwise acquire from H. Steinem a secret process for manufacturing liquified carbonic gas, and all or any of the rights, privileges, and property connected with the same; to carry on business as manufacturers of and dealers in carbonic acid gas, liquified or otherwise, and gases of all kinds, and all appliances, machines, and other apparatus for producing, supplying, using and disposing of the same; as chemical manufacturers, chemists, and druggists, bottlers, bottle and bottle stopper makers, potters, manufacturers of refrigerators, &c.

THE first part of the new and enlarged series of "Cassell's Family Magazine" is a very excellent number, and will surely become very popular. This well-known magazine has been a great success in the past, and is likely to become a greater success in the future. With this first part is presented a handsome artistic album of character sketches from Dickens, a souvenir which we would advise every lover and reader of the great novelist to become possessed of!

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

*** *We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.*

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

Pipes, December 2 (*Edinburgh*).—For about 140 tons of dry cast iron pipes, 23 inches and 15 inches diameter, for the Edinburgh and District Water Trustees. Specifications and schedules of weights may be obtained on application to Mr. James Wilson, C.E., 72a, George Street, Edinburgh. Tenders, marked "Tender for Cast Iron Pipes," must be lodged with Mr. William Boyd, W.S., clerk, Royal Exchange, Edinburgh, by December 2.

Coal, December 2 (*Wiggenhall, Norfolk*).—For supply of 10 tons of best house coal, to be delivered at St. German's railway siding, for the Wiggenhall U. D. School Board. Tenders sealed to be sent in by December 2 to Mr. Edwd. M. Beloe, clerk, New Conduit Street, King's Lynn.

Coal, December 3 (*Newcastle-on-Tyne*).—For the supply of coal for 12 months ending December 31, 1897, according to forms of tender which may be obtained at the city engineer's office, Town Hall. The quantity required is about 50 tons per month, chiefly house coal. Sealed tenders, addressed to the Chairman of the Finance Committee, and endorsed "Tender for Coal," must be left at the committee clerk's office, Town Hall, by 10 a.m. on December 3.

Colliery Stores, December 14 (*South Hetton, Durham*).—For next year's supply of iron castings, wire ropes, oils, and other colliery stores, except timber, for the South Hetton Coal Company (Limited). Forms of tender and specification, with full conditions, may be obtained from Mr. J. R. Lambert, South Hetton, Sunderland, and applicants for forms must state the kind of stores for which they wish to tender. Tenders, addressed to the South Hetton Coal Company (Limited), South Hetton, Sunderland, will be received up to December 14.

Iron, December 15 (*Lisbon*).—For supply of assorted iron and sheets, also envelopes and paper, for the Royal Portuguese Railway Company. The address is Santa Apolonia Station, Lisbon, and particulars are also obtainable at the Paris office, Rue de Châteaudun 23.

Railways, June 15 (*Tonkin*).—Offers will be received for a concession for the construction and working of two tramway or railway systems in the Tonkin delta, French Cochin China. Application should be made to M. le Secretaire, Général du Gouvernement de l'Indo-Chinoat the Colonial Ministry, Paris.

Colliery Stores (*Rhyhope, Durham*).—For the supply of colliery stores, iron, steel, brass, copper, and steel and metal castings, leather and saddlery, hardware, oils, grease, chains, wire ropes, brattice cloth, nails, &c., for 12 months ending December 31, 1897, for the Rhyhope Coal Company (Limited). Apply to the company.

Road Making (*Harrogate*).—For the various works required in the formation of a new road and drainage in the Dragon Estate, Harrogate. Persons desirous of tendering are requested to send in their names to Messrs. H. B. and A. Bown, architects, Harrogate, and quantities will be forwarded when ready.

Shaft Sinking (*Leeds*).—For sinking a shaft 60 yards deep and filling up the same, at Eccup reservoir, for the Leeds Corporation. Apply for particulars to the City Engineer, Municipal Buildings, Leeds.

TRANSVAAL COAL TRUST COMPANY (LIMITED).—The transfer books of the company will be closed from the 1st to 7th December (inclusive).

HADFIELD'S STEEL FOUNDRY Co., Ltd.,

HECLA WORKS,

SHEFFIELD.

Telegrams: HADFIELD, SHEFFIELD.

SOLE MAKERS OF

MANGANESE STEEL

under the Hadfield System and Patents.

HAMMERS, SHOVELS, SPADES, PICKS, WEDGES, STEEL FORGINGS.

STEEL CASTINGS OF EVERY DESCRIPTION.

MINING DRILL STEEL.

VEIN WALLS.*

By T. A. RICKARD, Denver, Colorado.

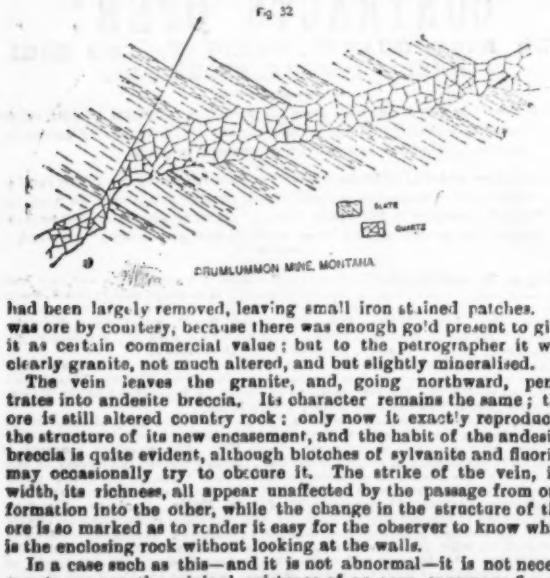
(*Concluded from page* 1470.)

IT is the usual experience in mining that when the abandoned workings of a mine are flooded they are less likely to collapse than when they are dry. This is due partly to the exclusion of air, and partly to the sustaining power of the water itself, as suggested by Mr. P. Argall, in the *Engineering and Mining Journal*, September 23, p. 314.

The formation of the hollow space seen in veins is, I believe, in most cases subsequent to the ore deposition, and, may, therefore, have taken place at a time when erosion had brought that portion of the vein to the surface. The Indiana section, Fig 29, shows that the cavities have been produced by the shattering of a vein of zinc blende already formed. The only occurrence of later date is the consolidation of the mass by the agency of water-bearing silica, unaccompanied so far as can be ascertained by the deposition of any metallic minerals. In the Mammoth Mine, Fig 30, the blocks of rock wedged within the cavities were coated with crystals of vanadanite and wulfenite; but there seems to be no connection between the presence of these later minerals and the formation of the ore-bearing parts of the lode. They are the result of secondary processes of which the upper part of a lode is the characteristic zone of activity.

The vein in the railway cut, cited above as a type, presents a filling readily recognisable as simply altered rock containing only an insignificant percentage of material foreign to the composition of the original granite. Nor is this an abnormal type of vein structure. The rich gold mines on the adjacent hills afford numerous examples of this very kind of lode formation. (And incidentally I would say that I know of no mining district which illustrates modern views on ore deposition so clearly as does Cripple Creek.) Of such mines I would quote the Independence vein, whose richness is such as to cause its commercial value to obscure its scientific interest. It does illustrate very aptly, however, this part of our enquiry, because the ore is so very evidently only altered country rock. In 1893, when the workings had not penetrated far from the surface, the car loads of ore sent from this mine to the Denver smelters gave the impression that some one had blundered, and either shipped waste from a crosscut or else switched cars of ballast into the place of loads of ore. One could see that it was the normal Pike's Peak granite with its big pink feldspar, but it required a trained eye to note that the mica

Fig 32



DRUMLUMMON MINE, MONTANA.

had been largely removed, leaving small iron stained patches. It was ore by courtesy, because there was enough gold present to give it as certain commercial value; but to the petrographer it was clearly granite, not much altered, and but slightly mineralised.

The vein leaves the granite, and, going northward, penetrates into andesite breccia. Its character remains the same; the ore is still altered country rock; only now it exactly reproduces the structure of its new encasement, and the habit of the andesite breccia is quite evident, although blotches of sylvanite and fluorite may occasionally try to obscure it. The strike of the vein, its width, its richness, all appear unaffected by the passage from one formation into the other, while the change in the structure of the ore is so marked as to render it easy for the observer to know what is the enclosing rock without looking at the walls.

In a case such as this—and it is not abnormal—it is not necessary to suppose the original existence of an open cavernous fissure since the material of the vein is the material of the rock which was there before vein formation began. The vein follows a line which became a path for metal-bearing waters. Minute interspaces there probably existed, such as would be produced by the crushing and slight dislocation of particles of rock lying along a line of fracture; but a clear opening, a crevassing, such as accompanied the origination of the dyke, seems hardly needed.

Occasionally, it is true, we do find veins full of minerals foreign to the encasing rock and so symmetrically arranged in bands having a comb structure as to suggest to many investigators that they were formed by successive crystalline growth from the walls of a vacant fissure. Such, no doubt, would be the interpretation given to the section of vein illustrated in Fig. 25. The reversed repetition of the quartz, rodochrosite, and sulphides is evident enough; but the most striking feature to me is the equal width of each of the two bands of the same mineral. Each vein of mineral would seem to have been fractured exactly in the middle previous to the deposition of the next succeeding one.

This specimen, and numerous similar structures in the same mine, indicate that the rhodochrosite was the first laid down, replacing, in part at least, the crushed rock which encased an original line of fault-fissuring. Subsequently another fracturing occurred, and this time the line of least resistance was the rhodochrosite itself, which, being homogeneous, broke down its centre. The shattered carbonate offered an easy prey to the sulphide-bearing waters which laid down the blende and galena. The presence of bits of rhodochrosite within the sulphide band indicates that the substitution was irregular. Later, new disturbing forces were at play, and the vein was fractured not only along its middle, as heretofore, but also along the lines of its contact with the encasing rock. These fractures were healed by the deposits of quartz, accompanied first by iron and copper pyrite, and then by rich silver-bearing minerals, such as the stephanite. The corrosion of the sandstone on the hanging had on that side irregularly widened the vein so as to give it greater strength; therefore the next movement, the last, took place along the footwall. This apparently resulted in nothing save the crushing of some of the encasing rock and the formation of a selvage whose removal produced the cavity which was so striking a feature of the stope.

Another typical illustration of this structure is presented by the Amethyst—Last Chance vein (at Creede, Colorado), which is certainly a magnificent example of an ore break.* The country rock, trachyte, has undergone multiple fracturing, and ore has been deposited along the division planes, so that there are walls *ad libitum*. The regular

Fig. 33.

NATURAL SIZE

DRUMLUMMON MINE, MONTANA.

ribbon structure produced by the deposition of agatized quartz in a sheeted rock is very beautifully marked, and the same process of silicification is further evidenced in those places where the lode consists of breccia composed of pieces of country covered by concentric layers of agate. The lode itself is much wider than the pay streak of silver ore, which usually follows the footwall. On the hanging the boundary between vein and country is fairly discernible; on the foot less so, because for several feet beyond the ore there is a red jasperoid which gradates into country.

In the Enterprise example, Figs. 25 and 26, each succeeding fracture occurred in the mineral deposit which had healed the previous fracture. In other instances the mineral deposit appears to have proved harder than the encasing rock, and the second fracturing took place near the original one, but in the soft rock rather than in the hard vein, thereby producing a new break parallel to the first one, and close to it, causing a repetition of vein walls such as have already been described in connection with the sections given in Figs. 1, 9, 10, 15, and 21. Or there may be the production of companion fissures forming contemporaneous veins, such as are shown in Figs. 13 and 19. Finally, the companion fissures may be so multiplied as to cause a sheeting of the country, and the formation either of one vein and several, subordinate, smaller and parallel to it, as in No. 15. or of a series of ore streaks united by mineralised country so as to form one large lode, as seen in Figs. 5, 14, 17, and 31.

The evidence of a multiplicity of fracturing, whether successive or contemporaneous, is the clue, I venture to believe, to many of the anomalies of vein structure. No district within my knowledge so well illustrates this aspect of the inquiry as Colorado's new El Dorado, Cripple Creek, in El Paso County, where gold veins occur as mineralised and enriched portions of dykes, phonolite, and basalt, traversing masses of andesite tuff and breccia. Other types are observable, but these are to-day the most characteristic. The mineralised rock forming the vein, and that less distinctly gold-bearing country which encloses it, have been subjected to such multiple fissuring as to produce a very marked division of the rock into parallel bands or sheets which may be a fraction of an inch apart or several yards. This structure can be seen no less in hand specimens than in blocks an acre big. The Moose vein, on Raven Hill, is a fair example. It is illustrated in Fig. 31, as seen October 27, 1895, in the back of the sixth (or 350 feet) level. A is andesite tuff and breccia, B, C, D is a dyke of dark, blue-gray nepheline basalt, subdivided into two barren parts, B and C, and one ore-bearing portion, D. Native gold and telluride compounds (sylvanite and calaverite) occur along the seams in the basalt where it is decomposed and iron-stained. The pay streak extends from E to F, about 10 inches.

This sheeting or multiple fissuring was probably the result of shrinkage accompanying the cooling of the volcanic rock. The fractures have a contemporaneity of origin quite distinct from the successive ruptures discussed in connection with the ribbon-structure of the Enterprise section. The latter were marked by the precipitation of diverse minerals, while those of a Cripple Creek vein are characterised by a similarity of mineral deposition.

Cases also occur where there can be discerned a combination of both these types of multiple fissuring.

A line of weakness, or even a region of weakness, once developed in the earth's crust is apt to continue to be a line of least resistance available for future fracturing. Even when a quartz vein is formed along a line of rupture, healing the break and strengthening it with a substance harder than the rock walls themselves, we may suppose that the next break will take place along the line of weakness presented by the imperfect cohesion existing along the plane of contact between the hard quartz and the less resisting rock.

The gradual penetration of mineral solutions into the immediately encasing country may finally obliterate the divisions due to multiple fissuring. The sheets of rock separating one from the other would be replaced by ore, and nothing might remain of the original structure save faint partings in the lode, such as are less evident to the eye than to the hand of the miner who instinctively uses them to assist him in breaking ore.

Thus, I believe, the collection of observations in various mining districts tends to the modification of that idea of clean-cut definition which accompanied the early ideas of vein structure. The evidence of contact between two dissimilar rocks, such as is seen along the walls of a dyke, will be often found in veins to be replaced by an indistinct gradation from mineralised to unmineralised rock, originally the same, but now rendered unlike by the selecting action of chemical solutions.

We are justified, however, in putting some limit to the depth of possible ore formation, since that formation is dependent on the presence of water. The record of the largest number of careful observations has shown that as we sink into the earth the increase of temperature is 1° F. per each 48 feet of descent. At this rate the critical point of water would be reached at 34,704 feet, or 6½ miles from the surface. Where the temperature is that of the critical point (773° F.) water cannot exist as a liquid no matter how great the pressure, but becomes dissociated into its gaseous elements. Moreover, we are warranted in believing that the thermometrical gradient becomes more rapid at depth beyond those reached by human observation because of a decrease in conductivity in the rocks, or as Professor Prestwich, the best authority on these matters, puts it *:—

"Taking into consideration the probable limitation of the percolation of water, and the possible diminution of conductivity with increase of depth, if there should be any alteration in the thermometric gradient, at great depth, it will be more likely to be in the direction influenced by these more or less certain factors."

Therefore, taking these conditions into consideration, we may expect the circulation of water to cease at 20,000 feet or thereabouts. But at the maximum depth the maxima of temperature and pressure must obtain. It must necessarily be a horizon of solution. Precipitation would hardly begin until a lowering of the temperature and a lessening of pressure permitted it. The deposition of ore is the direct result of precipitation, therefore actual ore formation is likely to be limited to a depth often of 15,000 feet.

It is not difficult to surmise why clean cut fractures are not necessarily most favourable to ore occurrence. In the Drumlummon Mine, Montana, the distribution of the ore appears to be connected with the change in the angle of intersection between the course of the veins and the strike of the slate country. Most of the ore bodies have been found where the course of the veins (N. 15° E.) cuts the slates at an oblique angle, and the levels run out of ore when the direction is either at right angles to, or conforms with, the strike of the country (N. 17° W.).

In Fig. 32 is a sketch made in one of the surface workings of the mine, which illustrates in miniature the fact above noted. It represents a small quartz seam 2 inches wide, traversing the slates, whose structure is very clearly marked by the other band following lines of original sedimentation. Near the left of the sketch the quartz follows a joint and becomes narrowed, while where it crosses (along a line of slight dislocation) the country it has irregularities and bulges which answer to the alternating slate bands. A rough, ragged fracture, when continuous, may be expected to offer more surface to solvent action and more, but not too many, obstacles to a rapid circulation of underground waters. Its structure also means more opposition to the closing in of the walls, because the irregular faces of the fracture, when they come together, leave openings which, if not along one section, then along another, have intercommunication, and so permit of a passage which would be badly impeded, if not absolutely stopped, by the closing of smooth walls.

Fig. 33 represents, to actual scale, a piece of slate enclosing a quartz vein, which came from near the end of the 700 feet level also in the Drumlummon Mine. It so happens that this is a true illustration in miniature of what the lode itself is doing at this point. The New Castletown lode, on which the level is driven, is at this point cutting at right angles across the bedding of the slate and is barren of ore. In the hand specimen, reproduced in the drawing, a quartz vein, not quite ½ inch wide, cuts perpendicularly across the slate whose bedding is rendered beautifully marked by dark bands. The vein has a uniform width, it has regular well-defined walls (guiltless of the projections and bulges noticed in the previous illustration. It may be only a convenient coincidence, but it is a fact that the quartz in Fig. 25 was equally and destitute of other minerals, while that in Fig. 34 was ferruginous vein-quartz.

Thus underground work bears daily testimony to the close dependence of ore-occurrence upon the geological structure of the enclosing country, a relation the importance of which Mr. S. F. Emmons has done invaluable service by clearly stating in more than one of his contributions to the *Transactions*. Wanting a proper understanding of the structure of the rock encasing the vein, the miner gropes but blindly in a maze of tangled phenomena until the geologist, by their proper elucidation, gives him a light which dissipates much of the darkness obscuring his progress underground.

* A Paper read before the American Institute of Mining Engineers.

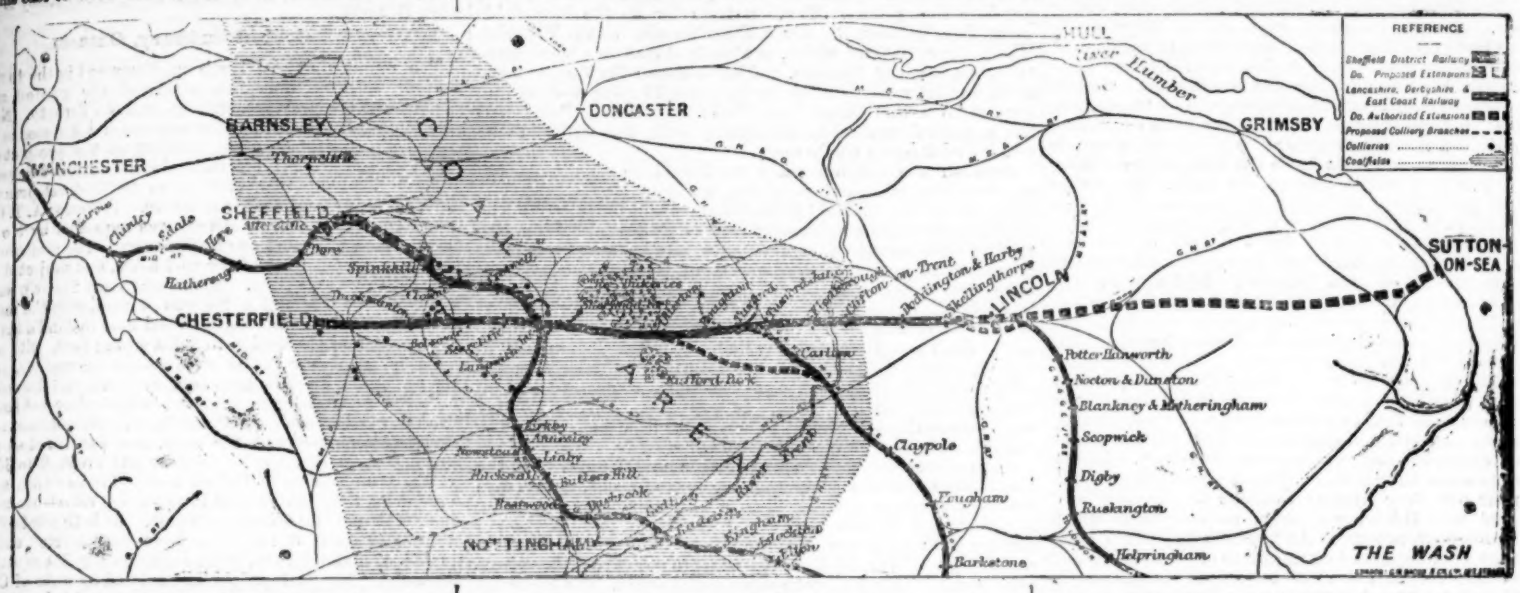
* At Red Mountain, in Ouray County, Colorado, it has been the practice to speak of the veins (the Guston, Yankee Girl, and other finished lodes) as "ore breaks," a break in the rock accompanied by ore—a term, it seems to me, much preferable to "fissure vein."

* *Controverted Questions of Geology*, by Joseph Prestwich, D.C.L., F.R.S. Macmillan, 1895, p. 247.

THE SHEFFIELD DISTRICT RAILWAY COMPANY, AND THE LANCASHIRE, DERBYSHIRE, AND EAST COAST RAILWAY.

WHEN, four years ago, the first sod was cut at Chesterfield of what is popularly known as the East to West Railway, it was clearly apparent that there must be some connecting link between the Midland, Great Northern, and Great Eastern Railways and the important manufacturing centre of Sheffield. To this necessary union of such extensive mining, manufacturing, and agricultural interests, the projected Sheffield District Railway Company forms a most needed link.

By courtesy of the Great Eastern Railway Company a large assembly of Press representatives and gentlemen interested in railway and mining development left by special train on Thursday last for Lincoln. Here the Great Eastern system joins the Lancashire, Derbyshire, and East Coast Railway, the opening of which was celebrated by the passage of this special train. This east to west route provides a communication with



the Dukeries coal field, which the Great Eastern has several times sought to accomplish, but hitherto unsuccessfully. After leaving Lincoln, the new line crosses the Trent by means of a viaduct, which consists of four spans of steel girders carried on cast iron columns, filled with Portland cement concrete, and built down below the bed of the river on to the hard red marl. The spans are 115 feet from centre to centre. The flooring consists of cross girders and rail bearers, with buckle plates, the whole being covered with a special preparation of asphalte. On each side of the river spans are brick arches, there being 39 on the west side and 20 on the east side. The piers of these arches in all cases go down a depth of from 20 feet to 30 feet to the solid marl, except in six instances, where the foundations are carried on a series of piles. Many interesting relics have been found in the course of the excavation, including the antlers of red deer got from a depth of over 20 feet, showing that the Valley of the Trent has gradually got filled up by alluvial matter. At Tuxford the East to West Railway is joined by the Great Northern, and here exchange and storage sidings have been laid down on a considerable scale, in view of the extensive coal traffic carried to London by the Great Northern Railway. At Edwinstowe and Clipstone the line runs along the beautiful glades of Sherwood Forest, which has hitherto been closed to mining interests by its ducal owners, but which is now opened as a virgin coal field, by its enormous richness guaranteeing a satisfactory output for generations to come. If, indeed, it should turn out as mining experts have held for many years past, it will be found that coal underlies the whole of this district. We have the authority of the Government Inspector of Mines for stating that the output along the Derbyshire Company's line had already reached 3,000,000 tons per annum, and that in the near future he anticipated that the production would be likely to reach 10,000,000. Ten miles from the present terminus at Chesterfield is situated Langwith Junction Station, which is the point where the Beighton branch goes off in a northerly direction to Sheffield, and where the new extension of the Great Northern line from Nottingham joins from the south. It is believed that this junction will become of considerable importance as an exchange station. Before reaching Langwith station there is a long embankment containing about 400,000 cubic yards of material, and immediately at the termination of this embankment is Warsop Station, which may be called the commencement of the Dukeries district. At Langwith Junction, before-mentioned, the East to West Railway, besides joining the Great Northern, branches off through an important colliery district. Creswell is of interest as the stopping place for Welbeck and Spinkhill as the junction with the Sheffield District Railway; a little further at Beighton Junction the East and West Railway joins the Manchester, Sheffield, and Lincoln. From Spinkhill to Sheffield the new Sheffield District Railway will, when completed, have a run of 9½ miles.

When last week, the Duke of Norfolk, as Mayor of Sheffield, performed the ceremony of cutting the first sod of the Sheffield District Railway, he had much reason for his happily expressed hope that the line might have a prosperous future. The site of the terminal station is on the recreation ground by the River Don at Attercliffe, and the goods yard is literally surrounded by factories and foundries, such as the Atlas, Bessemer, Norfolk, Cyclops, Carlisle, Saville, and Etna Works, &c. It affords an outlet for the manufactures of Sheffield over the Great Eastern Railway to the Port of London by means of the Lancashire and Derbyshire line; and, through the Midland Railway, it will open the east coast watering places for the residents of Leeds, Barnsley, Huddersfield, Halifax, &c. Including the adjacent districts, the new line will serve a population of little less than 800,000, and with its effect on the prosperity of the town it may be confidently expected that the present large annual increase on the population of the town will be greatly augmented. Affording, as it will, such an easy means of access to Sherwood Forest, which possesses a charm and beauty unrivalled in the whole of England, the holiday traffic is sure to be enormous. It is important also, in estimating the future of the line, that one should remember the rich agricultural district stretching for 55 miles between Chesterfield and Lincoln, and which has heretofore been without railway facilities for the carriage of its produce. Then, again, should the east to west line be continued eastward, as is proposed, to Sutton-on-Sea, the Continental trade is bound to receive a splendid and far-reaching impetus affecting no place in such a manner as it will Sheffield.

Recognising the value of the undertaking, the Great Eastern Company has subscribed £250,000 of the Lancashire and Derbyshire capital, and its Chairman and general manager have seats on that board. The Sheffield District Railway will be worked as an integral part of the Lancashire and Derbyshire undertaking, and the Great Eastern has entered into a statutory arrangement, in accordance with which it undertakes to subscribe for £50,000 of the Sheffield District capital, and has two directors on the board. Ordinary shares to the amount of £50,000 will accordingly be reserved for the Great Eastern Company, but they will not carry any right to participate in the debenture issue. The Sheffield District Railway is to be worked by the Lancashire and Derbyshire Company at 50 per cent. of its gross receipts, thus assuring the new company of a net revenue, in any event, of one-half of all it receives. This is a highly advantageous arrangement to the Sheffield District Company. Shares in the Sheffield District Company, the capital of which has been fixed at £400,000, were offered to the public last Thursday. To pay 5 per cent. on its ordinary capital the company must earn (in round figures) £25,000 net, which, under the working above mentioned, means £50,000 gross. That is to say, £5333 for 4 per cent. on £133,333 debentures, and £20,000 for 5 per cent. on £400,000 ordinary shares. This means £5265 receipts per mile, and considering the position of the line in the midst of a great manufacturing city, its friendly relations with the Great Northern and Midland, and its alliances with the Lancashire and Derbyshire and Great Eastern Railway Companies, it is submitted that in anticipating a gross receipt of £5265 the directors' estimates are moderate; and yet at even this low rate the new company will, as above shown, pay 5 per cent. on the ordinary shares. An additional factor in estimating possible receipts and profits is that on all railways the greater portion of profits are netted from terminal charges rather than on haulage. In the case of the new company 4½ miles out of the 9 miles of line will be fitted for terminus work. The Sheffield District will receive all the terminal charges on the traffic which the Great Eastern will throw into Sheffield, as well as on the traffic which the Great Northern will send by the new route. Lord Claud Hamilton, Chairman of the Great Eastern, and Mr. E. Bainbridge, M.P., Chairman of the Lancashire, Derbyshire, and East Coast Railway, are both on the board of the new company. Mr. R. Elliott Cooper, M.Inst.C.E., is the chief engineer of the Lancashire, Derbyshire, and East Coast Railway, and joint engineer with Mr. John Wilson for the Sheffield District Railway. Mr. C. J. Wills, of Manchester and London, is the contractor for the Sheffield District Railway. The solicitors for the Sheffield District Railway are Messrs. Devonshire, Monkland Davies, and Sandras, London; and Messrs. Busby, Davies, Sanders, and Co., Chesterfield.

BRITISH GUIANA'S GOLD INDUSTRY.

The R.M.S. *Esk*, which left Georgetown on the 28th ult., took gold to the value of $93,075·24. The shippers were:—

	Ozs.	dwts.	grs.
Colonial Bank	2487	4	0
British Guiana Bank	2775	15	5
Total	5262	19	5

The following are the returns of gold entered at the Department of Mines for the weeks ending:—

	October 24. Ozs.	dwts.	grs.		October 31. Ozs.	dwts.	grs.
Barama	135	4	0	.....	52	12	0
Barima	410	7	21	.....	968	16	0
Cuyuni	738	19	4	.....	288	7	8
Demerara ...	—			.....	—		
Essequebo ...	553	17	0	.....	697	9	17
Groete Creek ...	2	14	1	.....	32	11	15
Mazaruni ...	246	3	18	.....	—		
Potaro	162	6	8	.....	383	6	0
Puruni	28	0	21	.....	68	4	23
Total	2277	13	11	.....	2491	7	15

Export of gold from January 1 to November 9:—

	Ozs.	dwts.	grs.		
1896	98,709	5	6	at	$1,754,717·17
1895	99,415	16	20	at	$1,763,311·90

COAL BORING AND SOUTH STAFFORDSHIRE.—The Earl of Dudley is boring for coal in the Baggeridge Woods, which are situated beyond what is known as the western boundary fault. Mr. Francis Monckton, of Stretton, near Penkridge, a large landowner, is also boring for coal near Four Ashes Station, on the London and North-Western Railway. This is also beyond the area of the recognised coal field, and over the supposed "fault." The results of these investigations will be of vast importance to South Staffordshire, where the local supply of coal to meet the requirements of its vast manufacturing industries is not by any means equal to the great and growing demand.

THE INDUSTRIAL REVIVAL IN RUSSIA.—A company has recently been organised at Kiew, Russia, for the purpose of prospecting for and developing useful minerals in the south and south-west districts of Russia. The company has already commenced prospecting operations for petroleum and ozokerite in the Starv-Konstantynow and Krzemienitz districts, while in the Zwinogrod a lignite mine is being opened out and a briquette plant established.†

EXPLOSIVES ACT, 1875.

ORDER IN COUNCIL, No. 16, DATED OCTOBER 26, 1896.

THE following is a memorandum by H.M. Chief Inspector of Explosives, explaining the more material modification which this order affects:—This order affects only premises registered for mixed explosives, and does not in any way relate to premises registered for gunpowder only. The principal alteration effected by the new order is in respect of the amount of explosives which may be kept. Whereas under the former orders the quantity of small arm nitro-compound* which might be kept was required to be reckoned in the proportion of ½ lb. of small arm nitro-compound for each 1 lb. of gunpowder not kept, and could in no case exceed 100 lbs. in Mode A., or 25 lbs. in Mode B., the new order places small arm nitro-compound on the same footing as gunpowder pound for pound, and thus extends the maximum amount of small arm nitro-compound which may be kept to 200 lbs. in Mode A., or 50 lbs. in Mode B., subject, of course, if any gunpowder be also kept, to a reduction of pound for pound. On the other hand, under the old orders, a dealer who used a fire-proof safe for the keeping of gunpowder in Mode B, might have of gunpowder so kept an increased quantity (up to 100 lbs. in all) reckoned at the rate of 4 lbs. of gunpowder for each 1 lb. of small arm nitro-compound not kept. This privilege is withdrawn by the new order; no such special advantage attaching thereunder to the use of a fire-proof safe. But now, for the first time, a small arm nitro-compound (but no other description of nitro-compound) is allowed to be kept in a fire-proof safe. No change is made by the new order in the amounts of explosive which may be kept where any explosive is present other than gunpowder, small arm nitro-compound, and ammunition of the First Division of Class 6. Advantage has been taken of the opportunity which the making of a new order afforded to effect a minor modifications which experience has shown to be desirable. For example, the building which is authorised to be used in Mode A, may, if desired, be of iron, in lieu of brick, stone, or concrete; but, of course, subject to all the usual conditions as to situation, substantial construction, suitable lining, and security against unlawful entry or interference; also for this purpose a fire-proof safe reckons as a building. Words have also been introduced to remove an ambiguity which existed with regard to the necessity for keeping the receptacles used in Mode B properly closed and locked. The prohibition against opening on registered premises a package containing more than 1 lb. of explosive (other than explosive of the First Division of the Sixth Ammunition Class), and of the Second Division of the Seventh (Firework) Class, so as to expose such explosive is made more definite; a proviso being, however, introduced allowing the opening of a package containing not more than 5 lbs. of gunpowder or small arm nitro-compound in a cartridge "filling room" for immediate use only in connection with the filling of small arm cartridges in such room. Although Order in Council No. 7 (*a*), which requires a police certificate to authorise the keeping of explosives other than certain explosives named therein, is repealed by the new order, the provisions of the said Order No. 7 (*a*) are included in the new order, with the modifications necessary to bring it into conformity with the provisions of Order in Council No. 13. The other modifications effected by the order are of a formal or consequential character.

With reference to the abrogation of the privilege of keeping up to 100 lbs. of gunpowder in a fire-proof safe in Mode B, it may be well to point out that, although this privilege is withdrawn in premises registered for mixed explosives (in exchange for the increased facilities for the keeping of small arm nitro-compound) the privilege still remains in the case of premises registered for gunpowder only. And, accordingly, a dealer whose business necessitates his keeping a greater amount of gunpowder in Mode B. than 50 lbs. must limit his registration to one for gunpowder only †; or if he is registered for mixed explosives, he must resort to Mode A. storage, which allows up to 200 lbs. of gunpowder with a reduction of 1 lb. for each 1 lb. of small arm nitro-compound actually kept; or he can, of course, register two or more separate premises, subject to the restrictions of Section 27. A new (ninth) edition of the guide book to the Act, embodying the new order and the consequential alterations, is in course of preparation, and will be obtainable, either directly or through any bookseller, from Messrs. Eyre and Spottiswoode, East Harding-street, Fleet-street, E.C.; or Messrs. John Menzies and Co., Edinburgh; or Messrs. Hodges, Figgis, and Co. (Limited), Dublin.—V. D. MAJENDIE, Colonel, H.M. Chief Inspector of Explosives.

Home Office, November 10.

* Small arm nitro compound is defined as a "nitro-compound adapted and intended exclusively for use in cartridges for small arms."

† A registration for gunpowder *only* does not, of course, cover the keeping of small arm cartridges or any other explosive.

MR. F. W. GREY, of the firm of Messrs. Charleton and Co., who was for some years manager of the Nundy Iroog Mine, is about to visit Mysore for the purpose of inspecting some extensive gold mining properties in the northern part of that State. Arrangements can be made through his firm to secure his services for similar inspections.

MINING IN VICTORIA.

'THE EXODUS."—"SOMETHING MUST BE DONE."

(FROM OUR VICTORIAN CORRESPONDENT.)

THE headline which commences this article is the one absorbing topic in Victoria to-day. The latest issues of some of the more responsible dailies have now begun to deal with facts and figures, which indicate a serious condition of things.

This we know to be a fact that during the last two years the colony has lost 32,235 of her male adult population, and emigration is on the increase with redoubled force.

Every departure is now chronicled, and the Melbourne wharves from morn till night is one busy scene of steamers leaving for the Western Colony and South Africa freighted with human beings.

One paper sums up the position thus—"The most statesmanlike method of meeting a danger is not to stolidly deny its existence. The facts are now so patent that they need not be insisted upon. It will be more profitable to advertise the remedies and instil into the minds of our readers some hope of their practical application. That British Premier (Lord Melbourne) who gave his name to this city was wont to declare that things only got ticklish when people began to see 'Something must be done.' It is pretty clear that this inevitable something presents itself to an increasing number of our population as emigration from Victoria, and that indeed is the very best thing to be done unless very drastic changes are made. For, owing to reasons we are tired of repeating, if things are allowed to drift much longer, those who stay in a depopulated and overburdened province will regret it for a couple of decades." Week after week the political cartoonists fill their sheets with the members of the Cabinet fiddling on the Melbourne wharves in sight of steamers with bunting flying, and loaded with passengers, pushing off for other lands, burlesquing a familiar scene in Roman history. The week just closed records the departure of 1750 persons for West Australia. No sailings for the Cape. Of all the schemes discussed as a remedy, few have been cherished nearer the journalistic heart than that of assistance to mining, and advertising the colony's resources in England as one of the best means possible to draw capital and population to the colony. Leader writers have forsaken their political gods of yesterday, and proceeded to pour out their literary libations at the shrines of British capital and British enterprise, as expedients which might prove more propitious to the "something" which must be done. It has been impressed on the minds of those in interest by iteration and reiteration that to spread broadcast in England full reports of mining progress in such matters as new discoveries, crushings, and dividends, neglected areas and fields on which capital might be judicially invested, or, in other words, to "hang her banners on the outer walls" would conduce to the prosperity of the colony, create varied employment for the people, and that the cost of such an exploit would return to the coffers of the exploiters a hundredfold over and over again. This is no fancy sketch. There is a clamour from the Murray River to the seaboard for the magic wand of English capital. No one thinks of, and no one asks for Victorian capital; to do so would only revive the latest springs of memory, and cause us to remember what we once had lost and forgotten. Capital there is none. Willing hands, there are still a few not discouraged. Those who stay believe that the ebbing tide will change shortly; that Victoria with such immense mineral wealth, far surpassing her sister colonies, must attract attention. At ordinary periods the people are content to wait the march of progress, but with the restlessness borne of their condition they cry for it to come—and come at once.

Parliament has granted £140,000 assistance to the mining industry, and cut off the £3000 that was to be spent in advertising the colony's resources in England. It is safe to say that had the reverse been the case, the £140,000 saved and the £3000 spent, more good would have resulted to the colony. For what are the conditions. Judging from the number of persons who are leaving Victoria for other gold fields, it would give one the impression that those going are possessed with the idea that Victoria is worked out. Let us examine the facts, and this accomplished, it behoves the Government of the colony to do all that lies in its power to keep these facts prominently before English capitalists. No. 1 fact—Victoria is now producing more gold, coal, and other minerals than ever she did before. No. 2 fact—New gold fields, some of very considerable extent, are being opened up every day. At Melbourne's very door are Black Flat and the Plenty Ranges. In the extreme east, the Bemon and Snowy Rivers, Bonang, and a dozen other places in Eastern Gippsland. In the north-east Mount Elliott, the Mitta Mitta valley, the Bright and Harrietville district, and the Dargo High Plains, Bear Creek, Frenchman's, and the Victorian Mount Morgan field. The revival at Walhalla, Matlock, and Woods Point. No. 3 fact—Greater activity on the older gold fields such as Ballarat, Bendigo, Rutherglen, Castlemaine, Waldon, Daylesford, Malmsbury, Bullengarook, and all the southern fields, Steiglitz alone proving the exception. Take, for instance, the four new fields within easy distance of Melbourne—Bear's Creek, Big River, Frenchman's, and the Mount Morgan field. As yet comparatively few people are aware of what an opening these present, not only for the legitimate investment of capital, but also for the prospector, a goodly number of whom will here find beyond doubt what all so evidently desire. They are well within 100 miles of the capital, yet each of these four fields were until the last few months a *terra incognita*, and even now are only opened up at a few points. The credit of discovery of the three first may in all fairness be given to Mr. J. L. Reilly, the Mining Surveyor; and but for the fact that Mr. E. M. Cairnes had been proving to a sceptical mining community that gold existed in other matrices than quartz in working the Anaconda granite dyke at Glen Mills, it is doubtful whether ever the Mount Morgan discovery in sandstone would have been listened to. So quick does time and patient prospecting inspire confidence in not only new finds but new occurrences, that it is only four months ago to-day since Messrs. Cairnes and Thureau were looked on as little less than "cranks" when they published their reports, since when 9 miles of leases have been taken up. Travelling over the country a few days ago I was gratified to see the rapid extension of mining operations on all sides.

Quite a number of prospecting shafts were being sunk, and so far these have proved the ground for over a distance of 2 miles in length by about ¼ mile in width. Both shafts and costeans expose large bodies of mineralised ore, carrying free gold and pyrites. With English capital employed in big and economical mining on the Mount Morgan field, there is literally nothing to hold it back from reaping a solid reward. Three miles further east and about 6 miles to the south of the last-named, we reach another locality where the Santa Claus Company is at work upon some large diorite dykes, the principal ore which (trenched through for a distance of 35 feet) is intersected with quartz veins. The diorite itself contains 3 to 4 dwts. of gold to the ton, and the quartz veins have assayed as much as 13 ounces to the ton. This formation is traceable for miles, and following it in a north-north-westerly direction for about 10 miles, and crossing over the main dividing range from the head waters of the Yarra to those of the Goulburn it is again strongly in evidence. At this spot the Australian Prospecting and Mining Company have proved the dyke to be over 600 feet in width, carrying free gold as far as tested (300 feet) in payable quantities in the centre of the formation. The quartz veins are about 18 inches through the dyke, yielding 7 ounces to the ton.

This portion of Victoria is a blank on the map, and yet a river discharging 100,000,000 gallons of water daily runs along the foot of this spur. About 3 miles northerly some very rich alluvial workings have been opened up, and on the side of the hill a large reef (the Specimen), is being worked by a small co-operative party. Going in an east-south-east direction for another 7 miles we come on an English-Australian prospecting company at work on a new reef called "the Twin Jacks." This has been traced up the spurs for about 1½ mile on either side of the creek, and as the latter is 1000 feet below the tops of the spurs, having cut its way through and at right angles to the reef, what a chance for the alluvial prospector there must be. And yet up to the moment of writing not a spade has ever been put into the ground. These notes refer to the four fields—viz., Bear's Creek, Big River, Frenchman's, and the Victorian Mount Morgan, and which, as already stated, is a blank upon the latest maps of Victoria, and lies between the Tangil on the south and Alexandra on the north, about 15 miles west of and parallel to a line drawn from Walhalla to Wood's Point, and has a general bearing in conformity with the strike of the country rock north-north-west.

Between the isolated spots mentioned on this belt, the country is untried and unknown, but now that attention is being directed to it, it will, it is almost certain to say, within the next few years find employment for a large number of men and considerable amount of capital. I merely instance these fields as a case in point of what the colony is losing in not having some well-devised plan of giving publicity to these discoveries in England. Then, again, scarcely a day passes but what news reach town of a discovery in the far-off parts in Eastern Gippsland. Such a policy as is being pursued by the Government in locking up in the departments all information concerning the colony's resources at such a critical time, confesses a lack of business tact and judgment. If any town, city, or country wants enterprise and capital to come into it, attention must be called to it by every legitimate means.

As in advertising a business, it makes no difference what the plan is so long as it accomplishes the desired result, in each case the point being to get everyone to talk about you. As it is, the Victorian Government say, "We have just as good a country as West Australia or the Cape. Why don't our people stay here, and why don't others who are going to these places come here?" For the best reason in the world. The Victorian Government does nothing to convince capitalists and others who lead off in investments that they are determined to push forward the colony; that they are a lively set; that they are awake to what is being done about them. The moment they do this, the moment they make a right start, they will begin to attract attention. It is the old story; it takes more than gold in the mine to sell the property. And what applies to the individual applies to the colony as a whole. The Government must make its own market as much as the individual is obliged to. Men of recognised business tact and ability will readily come to Victoria if they see a chance to invest their coin. They know that their example will be followed by scores of others, who would not venture if left to themselves, and that the price of our mines will go up rapidly; that, if they so choose, they can dispose of their investments at a good advance. Is this not the secret of West Australian success? The leaders of finance have been tempted there. Hundreds of other men watch these leaders and follow their example. As at a gaming table a few men will do all the guessing as to which cards will win, and the others try to follow these lucky fellows, so it is in the mining world. Three-fourths of the buyers are purchasing on the brains and pluck of the other fourth. Most men distrust their own judgment in mining investments. They want to be shown by responsible persons what is safe and will yield some returns. Without labouring at the point, in common with others of the Press, it is time to warn the Victorian Government that its paramount duty is to check the ebbing population and that "something must be done."

GOLD MINING IN ONTARIO.

(FROM OUR OWN CORRESPONDENT.)

GOLD mining in Ontario is attracting more and more attention every day, and I am confident that when the resources of the province are known and appreciated in London, there will be such an influx of English capital that a "boom" will be experienced far in excess of that which any district in British Columbia has known so far.

It must be particularly gratifying to Toronto, and the province generally, that an era of prosperity is about to be entered upon, and it is to hoped that the public will show their sense of appreciation by investing in the various mining ventures that will from time to time appear on the market. Handsome dividends will be a sure result of prudent investment in sound mining companies which have been fully and thoroughly tested. The almost daily discoveries of great mineral wealth make the opportunities for legitimate and safe investment practically unlimited, and all that is needed is reasonable care and enquiry before purchasing stock and to deal with a respectable and well-established firm of brokers.

The famous Sultana Mine (Lake of the Woods district) is about to have the milling capacity doubled, and I hear that even then it will be impossible to handle the ore as fast as it is mined. Some idea of the richness of this mine may be gathered from the fact that 300 feet below the surface the vein, which was 3 feet wide at the surface, had widened to 30 feet, and the mine is being worked at a net profit of $20 to $25 a ton.

Harold Lake Mine (Seine River district) is going on famously. A deal of work has been done at this mine this summer, and the property has been developed to an extent which shows it to be of great value. Two gold bricks of the value of $1200 is the result of two clean-ups. I think, with more capital, this mine would show much better returns. I believe it is the intention of the owners of the property to apply for permission to raise the capital to $1,000,000, for the purpose of purchasing machinery, and for development work.

Great activity in gold mining is apparent in Algoma (Rat Portage district). Gentlemen interested in mining matters are arriving from all parts; in fact, to such an extent that hotels are full, and visitors have to be turned away. The arrivals are from Toronto, Montreal, United States, England, and the Continent of Europe, and everybody is struck with amazement at the phenomenal richness of the ores and the extent to which they permeate the locations, and cannot understand why they have been permitted so long to lie comparatively dormant. Many local companies have been organised in this district, among them being the Rat Portage Gold Mining Company, the Colclough Gold Mining Company, and the Rainy River Gold Mining Company. The Rat Portage Company will operate the Master Jack property. A shaft is now down about 50 feet, and is being carried down as rapidly as possible. Before any stock is offered for sale some drifting will be done, and the mine thoroughly examined and its value pronounced upon by a capable mining expert. If all gold mining properties were so tested before being placed on the market, the public would gain confidence and be willing to invest their money. A careful assay from the bottom of the shaft gave $22 per ton, and if present indications continue it should prove a most valuable property. With regard to the other two companies, I am not in a position to say anything of the merits of the properties they will handle; but no doubt they have secured something well worth attention. I understand that the Mines Contract Company, of London, England, said to be largely interested in South Africa, has secured 20 locations in this district, and is organising a company for their development. No less than 112 applications for mining locations have been made at the Crown Lands Department, all of them being in the Rainy River district, Ontario.

Coal at Sudbury, Ontario.

The report that coal has been discovered in the township of Balfour, near Sudbury, has attracted the greatest attention throughout the province, and especially in Toronto. Naturally, all classes of the community are much interested in the discovery; manufacturers are jubilant at the prospect of cheap fuel, to householders it means a reduction in their living expenses, and a decided impetus will be given to the development of the gold, silver, copper, and iron mines. Professor A. T. Coleman, of the Ontario School of Mines, was requested by the Ontario Government to report on the discovery. The professor made a thorough examination of the coal fields, and subjected some of the coal to various tests. Some coal from the vein was placed in a smith's forge and a fire was started, with the result that in the space of 15 minutes the wood used to kindle the fire was consumed, and the coal gave out a strong heat, with a bright, red glow. Sulphur fumes were hardly perceptible, and when not under the blast it gave intense heat, and burned with a yellowish-green flame on top, and bright clear red heat below. Professor Coleman's measurements resulted as follows:—"Vein stripping commences at the road, and ascends at an angle of about 60°, a distance of 75 feet due north, 6 to 16 feet in width, or an average of 13 feet wide. The coal then splits and dips under the country rock in two string veins—one continuing due north and the other north-east. At both points of dipping test shafts about 6 feet deep have been started, and a good quality of coal obtained, some exceptionally fine crystals being apparent. The coal proper is enclosed by walls of Cambrian slate, running about south-south-west, and being streaked at some points by fine 'splashes of iron pyrites.'" The professor is of opinion that the discovery is valuable, and has all the qualities contained in coal, but the upheaval not having taken place in the era of coal formations, it consequently is not, scientifically, called coal.

Having made gold mining my especial study, I cannot venture an opinion on the discovery, but am inclined to believe, from the samples I have seen, that it is probably a carbon, with more or less impurity in it, and has probably resulted from the metamorphism of a bituminous substance. However, coal or not coal, the great question to be decided is, whether it exists in workable quantities? Many similar discoveries have been made in other parts of Canada, particularly in Labrador, but not in workable quantities, and this may be the case at Sudbury, and I think, until further development is made, it would be unwise for people to place too much reliance in the suggestion that this particular deposit extends over a large area, or to build too great hopes regarding the deposit.

A local company, under the title of the Algoma Coal Mining Company, has been formed for the purpose of developing the reputed coal discovery, and seems to have met with popular approval. The capital of the company is $1,000,000, in shares of $1 each. Many applications for stock have been made from Toronto business men, and other residents of the city. It has been decided to operate a diamond drill, and to determine the extent of the deposit; and it is likely that the drill will strike the coal formation after getting through the clay surface of the swamp about 10 feet in depth. The public do not seem to care whether the deposit is coal or not. As long as it is fuel they appear to think it a paying investment. *Quien sabe?*

PROFESSOR JUDD ON RUBIES.—At the Imperial Institute, on Monday night, Professor J. W. Judd, C.B., F.R.S., delivered a lecture on "Rubies, natural and artificial, with special reference to their occurrence in the British Empire."—Professor Judd, in his opening remarks, said the ruby maintained its position still as the material which embodied the highest money value in the smallest possible compass. There was a prevalent belief that this distinction belonged to the diamond, but such was certainly not the case. He had the best authority for stating that a ruby of five carats was from 10 to 12 times the value of the same size, even though the latter were of the first water. Still larger rubies showed even greater excess in value as compared with diamonds of their own size. The true ruby was a red variety of crystallised oxide of aluminium. What was commonly spoken of as "the great ruby in the British Crown" was no ruby at all, but really a spinel. Some of the localities in which small forms of the gem were found were next described, the lecturer stating that but little was known as to the truth of the assertion that they were found in Afghanistan and Tibet. Upper Burma, he said, had long been known as the source of the finest rubies, also of that wonderful red stone, the rubellite, which was not highly prized by jewellers in the Western world, but which was regarded by the Chinese as the most precious of all stones. With the aid of sketches and photographs shown upon a screen, he gave a description of the general character of a mining district and the methods of obtaining the gems, remarking that the most wonderful ingenuity was shown by the Burmese in the way in which they employed the most primitive appliances in carrying on mining operations; and that the question of abolishing primitive methods needed a great deal of consideration. Rubies were found scattered through the rock of the limestone itself, and it was impossible to remove these gems by blasting owing to the danger of shattering them, and other means were unknown. He dealt, in conclusion, with rubies made artificially, and the tests for distinguishing them from the natural gem.—The proceedings concluded with a vote of thanks to the lecturer.

COAL MINING AT HAVRE.—A large winding shaft is to be constructed this year by the Société des Charbonnages de Bois-de-Lessus et Havre. According to the present plan it will admit the passage of four cages simultaneously, and the shaft will be tubed with cast iron rings of 17 feet inside diameter; while the engines are calculated for winding from a depth of 601 fathoms, although at first the lift will only be 328 fathoms. The pumping and upcast air shafts will be 13 feet in diameter, and screening and washing plant will be added. The work is expected to cost about £100,000, and the daily output will be from 1000 tons to 1200 tons, while the winding, pumping, ventilation, and generation of electric current will require about 2500 horse-power engines. Owing to the difficult nature of the country through which the shaft will have to pass, the undertaking is said to be fraught with considerable difficulty.

MEETINGS OF MINING COMPANIES.

DEVON GREAT CONSOLS COMPANY, LIMITED.

THE ordinary general half-yearly meeting of the shareholders in the Devon Great Consols Company (Limited) took place on Wednesday, at the office of the company, 8, Finsbury Circus, E.C., Mr. PETER WATSON, J.P., C.C. (Chairman and managing director), presiding.

The SECRETARY (Mr. George Hadlee) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—Before moving the adoption of the report and accounts, I should like to say that for something like 20 years I have been Chairman of this company, and have never missed taking the chair at the half-yearly meeting, or omitted to attend a board meeting. I think that is a pretty good record for the best part of the last 20 years. To-day I was afraid I should not be here, having been suffering from a very severe cold, but, however, I managed to get here. Under the circumstances I do not think I have a very great deal to say in moving the adoption of the report and accounts. The report of the directors informs you of the very severe drought which we have had, and it is well known to all of you, both the shareholders present as well as those who are absent — in fact, all over the country — that it was, perhaps, the longest drought ever known in England. At any rate, as is stated in the report, for a period of over 30 years, they have never experienced such a drought in Devonshire, and in consequence of it we have suffered very greatly. Under these circumstances, I think the state of the accounts is such that we certainly can congratulate ourselves on not being in even a worse position than we are. As you will see we have not borrowed £4000 or £5000 as we have had to do before, but we have contented ourselves with only borrowing £1000, which I hope, at no distant period, we shall be able to pay off. So far as the mine is concerned, Captain Clemo is here, and he will give you any information appertaining thereto. All we are informed as directors is that the mine is looking fairly well, if not very well at the present time, and with an improvement in the prices we think the outlook for the next 12 months is a very great deal better than we have had for some considerable time. As you will see, in point of fact, so far as the mines are concerned, the valuations are very satisfactory indeed. Of course, the returns have been very much less from arsenic, but so far as copper is concerned, during the last four months the production really almost vanished, inasmuch as that we had the water in Watson's shaft for something like 3½ to 4 months. And when I tell you that the water has been accumulating in this and other parts of the mine, in consequence of the drought, to such an extent, perhaps, as has not been known for many years, and that we have had to pump out 10,000,000 gallons, you will readily understand the difficulties which have beset us. I have never seen so much water in a mine before. However, we are happy now to meet you to-day, and to tell you that by the end if this month, if not by the end of this week, I think Captain Clemo will say that we shall have the water out right down to the very bottom of the mine. Then we shall be, I hope, in full operation, and unless another mishap occurs there will be a very substantial increase in the amount of copper ore. We know that we have got a very large quantity of ore in Watson's part of the mine. I do not think I can tell you anything more, except to say that we hope to get better prices for our copper and arsenic, and if we do I think there is a very fair prospect of our meeting you in May next, or possibly before that time, with a very much better statement of accounts than the one we have on the present occasion. I, therefore, beg to move the adoption of the report of the directors and the statement of accounts, coupled with the hope that we shall have a better account to give you on the next occasion.

Mr. F. G. LANE, in seconding the resolution, said: A short time ago I was down upon the mine, and I was very pleased to find that the workings both on the surface and underground were proceeding in a very satisfactory manner—in fact, they looked much better than they did two or three months previous to my visit. The state of affairs in consequence of the drought was very distressing to those who take as great an interest in the concern as I do. Operations were obliged to be suspended in some parts on account of the want of water to carry on the reduction department in a satisfactory manner. The quantity of arsenical mundic brought out was limited, and the dressing floors were almost depopulated. It was also very unfortunate that the raising of minerals in Watson's and other parts of the mine was entirely stopped owing to the necessity of using steam engines instead of our water power. Unluckily, although we did not have any water to work our wheels for some considerable time, still the accounts will show you that we have to pay for the water, and also the royalty on the quantity of stuff sold from which, however, a loss is being made. That state of things we cannot avoid; it is owing to the terms of the lease. We have done all we possibly could to get a concession from the lords, and also from the Duchy, but we have got no favourable response. Under these circumstances it is not more than what we could expect in having so unfavourable a statement of accounts to present to you. They are unfavourable as regards the amount raised and the amount returned, but other operations were being carried out underground, and we now find that things are looking very satisfactory, and that we shall be able to make better returns. These returns, the manager will tell you, will show an improvement upon all we have done hitherto. The mine itself is looking very well indeed. If you read the concluding paragraph of the report of Captain Clemo, you will find it is stronger in language much more than in any other report we have received for many years. Your manager states:—"I am glad to report that the stopes continue to yield good quantities of mineral for the reduction works, and we are still trying to make further discoveries of minerals in other parts of the mines, so as to increase the make of arsenic, and to enable us to again resume the giving of dividends to the shareholders." For many years we relied on the quantity of arsenical mundic that remained in the burrows and on the surface. That, however, is now nearly gone, but the question to my mind is whether it pays sufficiently to manipulate. I depend entirely upon the produce of the mine itself, and in every department you will find that we have better prospects. In Field's shaft, if you look at the report you will find that at the bottom of the 130 fathom level the lode in the eastern end is worth 10 tons, and in the western end 4 tons. I may tell you that this is a very important point, as in the 141 fathom level, which is the one just below, we have a further improvement in the back, and from there we expect very much better results than we have had for some time past. In fact, I think your manager will tell you that from that point alone there will be a great increase on our future returns. Other parts of these mines are being opened out, and from these also you may expect very favourable results, so much so that I think we may look forward to the future with every prospect of more favourable accounts being presented to you than we are able to bring forward to-day. It has been the inclement weather that we have not been able to make larger returns, but the hindrances we have had in the past two years we hope and trust will not occur again. They have been very costly to us, especially as we were obliged to use steam power because the water power, which has been of such great assistance to us, failed; but we trust that the difficulties we have had both with regard to this matter and in having to drain Watson's shaft will not prevent us in the future from getting even better returns than we have had in the past. Therefore, I hope that no shareholder will be disappointed at the next meeting with the state of things which will then exist. With these few remarks, I beg to second the adoption of the report.

Mr. MOSES BAWDEN, C.C. (purser) said he did not think there was anything for him to say, unless any question was put to him.

Captain WM. CLEMO said everything of interest was mentioned in the report, and all he could say was that he hoped to make better returns in the future. They had now quite got rid of the water in the mines.

Mr. SLOPER wished to know what the indebtedness of the company was at the present time. In regard to the great stress which had been laid upon the working of the 130 fathom level in the Wheal Anna Maria, he pointed out that they were working mineral there which did not pay to touch in olden times. He must also ask his old question as to the amount of reserves they had. They were not sinking any deeper, and therefore he wished to know what was the quantity of mineral they calculated they had in the upper levels. This would enable them to know in what position they stood, for the shareholders must not forget that there was a liability on their shares.

The CHAIRMAN, in reply, considered that Mr. Sloper's remarks were very uncalled for, and especially as his (Mr. Sloper's) shares cost him nothing when compared with the interest he (the Chairman) had, for he (Mr. Sloper) had been paid back by way of dividends. The price of the shares had not gone down since he was appointed managing director—in fact, every shareholder knew that the concern would have been wound up long ago had he not been at the head of affairs. However, it was the old story, and he supposed Mr. Sloper would always grumble while he continued to be a shareholder in a company which, he submitted, was well managed. When nearly every other Cornish mine was making calls to keep going he thought it was very uncomplimentary on Mr. Sloper's part to speak as he did. But the views of nearly all the other shareholders were totally different to his. They were working the mines with a view only of again paying dividends, and it was very ungracious on his part, seeing the difficulties they had had to contend with during the past four months, that he should come there and make the remarks he had. They had had to pump 10,000,000 gallons of water out, and spend £2000 in meeting the cost of this and other work, and yet they had only borrowed £1000. Their present liabilities amounted to £2000, but as they had £1562 in hand they were only about £400 or £500 behind. Under the circumstances, he hoped the shareholders would sympathise with the directors if Mr. Sloper did not. He had received several communications from shareholders who had been in the concern many years, and they all expressed their sympathy with the board. Mr. Sloper also referred again to the amount of his remuneration, but that was a mere song when compared with the work and responsibility he undertook. The mine was the largest one in this country, and not only that, but it was a manufacturing and commercial one as well.

Mr. MOSES BAWDEN, C.C., replying to Mr. SLOPER'S question as to the amount of reserves, said he would see in the report the figures, which were:—Copper ores, 1708 tons; arsenical mundic, 6490 tons.

The CHAIRMAN said it was impossible to tell what their total reserves were in the upper levels. As to their prospects, he could only say, in the words of Henry Russell's song, "There's a good time coming, boys," but wait a little longer.

The resolution was then put and carried unanimously, the CHAIRMAN announcing that the large number of proxies sent in support of the board was very satisfactory, and thanked those for sending them.

Mr. SLOPER again asked for an estimate of the amount of reserves there were in the mine.

Captain CLEMO said he had been connected with the mine since October, 1844, but all along he had been unable to give such an estimate—in fact, it was an impossibility to do so.

Mr. MOSES BAWDEN, C.C., explained that the only estimate a miner could give was as to the value of the ground 5 fathoms below and 5 fathoms above where he was working.

Mr. F. G. LANE said Mr. Sloper's contention that an estimate of the ore in reserve could be obtained was perfectly ridiculous. If a miner attempted to go beyond the limits stated by Mr. Moses Bawden he was not doing his duty honestly. In some parts of their mine the lode was 40 feet wide, but they could not guarantee that this width would continue for 100 fathoms.

The CHAIRMAN: According to Mr. Sloper's idea we should have stopped years ago, but we are, nevertheless, still going on.

Mr. LANE, continuing, instanced a case where three months ago one of the most respectable mine agents in Cornwall gave it as his opinion that the returns from the mine he was connected with would increase. However, instead of getting 20 tons from one level as he expected he had got nothing. As to Mr. Sloper's remarks about sinking, it had been already proved that the mine was poorer in depth, and he for one would never consent to money being expended with this object in view.

Mr. J. COPPEN, C.C., as a large shareholder with his friends said he found that the same tone prevailed in Mr. Sloper's remarks whether they had a dividend or not. He never seemed to say one word of encouragement to the directors—he always seemed to be desirous of throwing cold water on their undertaking. However, he (the speaker) recently visited the mine, and had quite satisfied himself that the enterprise was conducted in a proper and businesslike way. Those in charge of the mine were honestly doing their best to overcome the many difficulties which had presented themselves. Mr. Sloper's contention that it was possible to give an estimate of the reserves was a ridiculous one. Captain Clemo and Mr. Bawden were of opinion that they had a much brighter future before them, and if Mr. Sloper did not believe that, let him dispose of his shares. Only a few days ago he was offered a price which would have been a very handsome one if the prospects were not so good as he believed they were.

The CHAIRMAN, in thanking Mr. Coppen for his kind remarks, said, as he had said before, he believed that in the next 12 months the shareholders would receive a very considerable benefit from the working of the mine.

Mr. FREESE wished it to be understood that they had more than one mine and one vein on which they depended for their profits. There were the Wheal Anna Maria, Wheal Josiah, Wheal Emma, and Watson's, and there were 22 stopes, which were yielding payable ore. Some of it was very high class ore—higher indeed, as far as his memory served him, than they had for a long time past.

Mr. PRYCE moved a vote of thanks to the Chairman and directors.

Mr. A. TAYLOR seconded the vote, which was heartily accorded.

The CHAIRMAN, in reply, said all the officials of the company had one object in view, and that was the earning for the shareholders, at no distant date, of a good dividend. He believed they would do so in the next 12 months.

The meeting then terminated.

THE DARIEN GOLD MINING COMPANY, LIMITED.

The ordinary general meeting of the shareholders of the Darien Gold Mining Company (Limited) was held on Wednesday afternoon, at 65, King-street, Manchester.—Mr. HAMMERSLEY HEENAN, M.I.C.E., M.I.M.E. (Chairman of the board of directors), occupied the chair, and the other directors present included Messrs. A. Coventry (Manchester), F. Monks (Warrington), and Mr. A. Lodin De Lepinay (Paris).

The SECRETARY (Mr. W. Whitaker) read a letter from Lord Charles Beresford apologising for his inability to be present at the meeting. "I should like as one of the directors," continued his lordship, "to place my views on the situation before the shareholders. To my mind the value of the mine is clearly shown by the depth which the Spaniards arrived at, notwithstanding the countless difficulties they must have incurred through want of proper appliances and scientific methods so many years ago. That Mr. Woakes has been able to get 1·68 ounces of gold per ton out of what really might be described as the tailings of the Spaniards, points to the fact that we may expect some most excellent results when we arrive at the virgin lode. The shareholders will be glad to observe that the suspense development account of £13,735 8s. 2d. has been written off, as well as the sum of £9000 which has been written off the capital expenditure account. I feel very confident that the shareholders will have every confidence in what has been done, and may look forward to a substantial dividend at or before our next general meeting." (Hear, hear.)

The directors, in their annual report for the year ending August 31, 1896, stated that the work of development had been continued, and very satisfactory progress had been made. Early last year it was anticipated that the shaft would strike below the old workings, and that virgin ore would be reached. The crosscut, however, proved that the Spaniards had reached a greater depth than was previously supposed possible. The directors, nevertheless, had much pleasure in stating that although the lode above that level had been considerably worked, and the rich ore extracted, Mr. Woakes (the manager) had proved it to contain the gratifying amount of 1·68 ounces of gold per ton, yielding a profit during the year of £11,912 1s. 3d., which, with the balance brought down from last year of £1934 18s. 3d., made a total of £13,846 19s. 6d. Out of this sum the directors, in accordance with the wishes of the shareholders at the last annual meeting, had written off the whole of the suspense development account amounting to £13,735 8s. 2d., which would leave a balance to the credit of profit and loss account of £111 11s. 4d. It would also be seen that the sum of £9000 had been written off the capital expenditure account, being the amount received for premiums on the issue of B shares during the year. The accompanying plan and section of the mine, and the figures given in Mr. Woakes' report showed that the lode, so far as was already proved, contained nearly a million cubic feet of ore, equal to 75,000 tons for every 100 feet in depth and considering that the yield (from stamps alone) of actual crushing from mineral left in the old workings averaged 1·29 ounces per ton, the very moderate estimate of the yield from virgin ore, in Mr. Woakes' report, seemed justified. The directors further felt that although the development had taken longer than was anticipated, the time and expenditure had been fully warranted, not only by the prospects but the results obtained. The directors attached much importance to the statement in Mr. Woakes' report that he had already taken the necessary steps to secure for the benefit of the company three new claims adjoining the Espiritu Santo Mine, and, judging from the ancient records which had been found so accurate, there was reason to believe that these and the other properties would prove a source of considerable profit to the company when the time arrived for dealing with them. In conclusion, the directors desired to bear testimony to the great energy and determination displayed by Mr. Woakes and his staff in dealing with and overcoming the difficulties at the mine. His interest in the company was such that he had allowed his leave of absence to stand over until next spring, when he hoped to be able to tell the shareholders personally his opinion of the value of the Espiritu Santo Mine. The directors who retired at the meeting were Mr. Hammersley Heenan (the Chairman), Mr. Arthur Coventry, and Mr. F. Monks, all of whom offered themselves for re-election. During the year the directors had appointed Mr. A. Lodin de Lepinay an additional member of the board.

The CHAIRMAN, in moving the adoption of the report, said: In order that the shareholders may be better able to judge for themselves the position of the company and the truth of the statements made in the prospectus, I have caused to be printed some extracts from the works of various writers on the Darien Mines. They are somewhat lengthy, but as most of you have a fair stake in the company I am sure you will not grudge a few minutes to draw your own conclusions from the recapitulated facts now put before you. The third paragraph says that in 1702 English pirates took possession of the mine, and in four days they took out of it, with a few men, £3000 worth of gold. In the paragraph the Governor of Darien, in his address to the Viceroy, dated 1774, gives a description of the mine, which, being read in the light of to-day, is astonishingly correct. He states that the gold was very fine and exceeds 22 carats; this exactly corresponds with the price that has been paid for the bullion obtained by us and sold in the London market. He states the vein was inclined, or nearly perpendicular. For a verification of this fact examine the plan and section sent with the annual report. He further states that there were five ladders by which to enter the mine, and four walls in which to collect the water before it could be pumped up. These facts, as you know from reading the report, have all been verified to the letter. Not only were the wells found, but also the treadwheels by which the buckets for lifting the water were raised. Further on he states that the mine had four levels, but that the lowest was largest and widest. Mr. Woakes reports that "he is happy to say the lode seems to increase in width and in richness the further he goes down." The pillars of ore that were left to support the roof, and which were strengthened by heavy timbers, are *in statu quo*, and photographs of the same are on the table. The Governor also states in a letter dated September 12, 1778, that the Espiritu Santo Mine is the greatest in the world, and that its principal vein is 7 yards wide. This evidently refers to the south portion of the lode, which we believe to be extremely rich, but we are only able to judge by the small pieces of ore left sticking to the pillars and hanging walls. He states that the gold received in one year by the King of Spain as a royalty of one-fifth of the output (and you may be sure he did not get all that was due) was 820 lbs. weight, which puts the annual output at £260,000 sterling. In 1877 M. Lucien Wyse visited Cana, when surveying for the Panama Canal. He describes two artificial ponds, 35 metres long, for operating on the Espiritu Santo Mine, and says that the vein runs from south-west to north-east, and this statement, together with M. Wyse's views as to the size of the vein, have been corroborated by the report made for our company by M. Charlaix, whose map you will still have in your possession. Lionel Wafer wrote in 1680 that the Cana mines yielded 20,000 lbs. weight of gold per year. This gives over a million sterling, and Dampier estimates the yield at about the same figure. Mr. Edward Cullen wrote to *The Mining Journal* in 1850 that, according to the archives of the Treasury of Panama, the Royal tax upon the single mine of Espiritu Santo reached a million and a half dollars per annum, which, taking the tax at 20 per cent. (Cullen puts it at 5 per cent. only), indicates a total yield of over a million sterling. Finally Sir Philip Perez places the yearly output at $1,450,000. From the above extracts I do not think we are justified in supposing that Mr. Woakes' estimate of the mine is in any way exaggerated, and further state most emphatically that our knowledge of the mine, gathered from practical experience, has not enabled us to detect the slightest inaccuracy in the statements of the ancient or modern historians of the Darien Mines. Some of our Manchester friends, whose anxiety to criticise has exceeded their knowledge of facts, have asserted that the vein does not continue to a greater depth than 200 feet, but on this point I will ask one of your directors to give you his views. He is the head of the School of Mines in France, and his opinion, which he has practically backed by active association with this company, is second to none. There is one other point that few of you seem to have taken into account. I suppose it is because it has never been "rubbed in." (Laughter.) You are aware that we own, besides the Espiritu Santo Mine, several other concessions of more or less value. I will content myself with mentioning one of them only—namely, the Marea Concessions. I have a book in my possession, by Dampier, written 200 years ago, which contains a map of the Marea River. Besides the map, it contains a very interesting paragraph relating to your property. It states that out of this river alone the Spaniards extracted 20,000 lbs. weight of gold per annum. You will naturally ask why, then, has not this been worked? It is possible to put more in your mouth than you can comfortably masticate. But as soon as the reputation of the Espiritu Santo Mine is established you may take it for granted we shall have plenty of offers from capitalists to buy or lease some, at least, of our valuable concessions. I have endeavoured as fairly as I can to put the position of affairs before you, but to make the statement complete I must add what I know of the difficulties still to be overcome. They are inconsiderable compared with the complex questions we have had to face, and I am happy to say that all difficulties arising from the terrible money question are now things of the past. The pressing consideration at present is that of transport. Of the 150 miles between Panama and the mine 30 miles have to be traversed by road, on which we have to ascend some 3000 feet. The water transport I expect will be in an efficient condition by the middle of

February, as have ordered a small steamer, made of steel and teak-wood, 60 feet long, by 11 feet beam, and drawing 5 feet 6 inches of water, which will make the trip between Panama and El Real in about 12 hours. At present we are entirely dependent on sailing boats, which often take a fortnight to accomplish the 120 miles. The road difficulty is more serious. The stamps, pumps, and, in fact, nearly all the machinery that has been sent to Cana has been designed and made so that the heaviest portion should not exceed 100 lbs. weight. But delay, cost, and inconvenience have consequently been incurred, and in the wet season even such transport is absolutely impossible. We are sending out an American engineer, who has had great experience in this class of work, to survey for new roads, both *via* the Atrato and El Real, and give us estimates for the construction of light horse tramways over both routes. As I told you in the directors' report, everything possible is being done by water power, and, if the Spaniards with the implements, I will not say machinery, they had could make between £100,000 and a million a year profit, I think you may trust your present management, with the excellent plant and appliances at their disposal to do at least as well. No one that is not in touch with the management of the mine can appreciate the difficulties of securing an all-round suitable staff. At present we have about 350 men employed, and to feed these alone requires some organisation. You will, doubtless, want to know what they are doing. I will answer you in two words: "Getting ready." If we had not been forced to crush débris to find the wherewithal to prosecute, the mine would have been paying large dividends by now. I told you this three years ago when I asked for money to prosecute the work energetically, but your response was not sufficient to justify the required expenditure, unassisted by profit from the workings, so the labour that should have been devoted to development had to be diverted to make sufficient profit to meet current expenses. It is a matter of sincere regret to me that Mr. Weakes is not present to-day to tell you his own tale. Could he have been here, facts would have come from him with greater authority than I have been able to impart to them; but in his absence I think you will agree with me when I say that Mr. Weakes is a most cautious man, and when he says that he has 5s. you may be absolutely certain that there is half-a-sovereign in his pocket. You will remember that last year he told you "he believed he could get half an ounce to the ton by crushing the debris in the old workings"; instead of this he has given us over 1·5 ounces. He has sunk the deep level shaft, got 100 tons of machinery to the mine, and made a ditch 6 miles long, which will give us a head of 350 feet of water, in addition to building several houses for the staff, and moving the saw mill from a used up site into a virgin forest. I am afraid I am taking up too much of your time, as some of the shareholders will naturally want to ask questions, but before sitting down I must remind you that your board have worked for seven years without receiving any remuneration. I speak principally for the French directors, who have worked most cordially with their English colleagues, but, as they have to come a long distance, each board meeting takes up three days, you must not expect them to give their time and service for an indefinite period. I mention the subject as several of my friends remarked to me that the directors' remuneration did not appear in the balance-sheet. This omission, will, I have no doubt, be rectified by the shareholders at our next ordinary general meeting. (Applause.)

Mr. F. MONKS (Warrington) seconded the adoption of the report. The future of the mine, he said, must be left to speak for itself. If they had accomplished so much under adverse circumstances during the past year, they might reasonably hope for greater success in the future. They would not realise the full measure of their success until they had got the road, which the Chairman had spoken of, made, and thus be enabled to have greater access to the mine than was possible at the present time. This was the main difficulty which they had to face. As to the value of the mine, he thought there could be no question. If the vein were struck 100 feet below where the old Spaniards worked down to, he thought they might fairly claim to possess a mine, the wealth of which no man in that room could estimate. He did not wish the shareholders to think they were at present working the mine. They were simply doing the best they could under the circumstances. The development of the mine proper had yet to come. (Applause.)

The CHAIRMAN called upon Mr. A. Lodin de Lepinay (Paris), whom he said was one of the greatest mining experts in the world, to give his opinion on the mine.

Mr. LODIN DE LEPINAY said he thought the mine was one of the richest in the world. He could not say less. He hoped they would achieve very good results during the coming 12 months. (Hear, hear.)

Mr. A. COVENTRY (Manchester) said an expression of opinion had been asked for from the directorate as to why the shares of the company had gone down so much. That was a thing with which the directors had little to do. They could not be answerable for the carelessness nor fluctuations of the Stock Exchange. All they could say was that they knew nothing whatever which should depress the shares that was not already known to the shareholders. The shareholders knew everything which was known to the directors. They believed they had got a first-rate manager, upon whose statements they could absolutely rely. Personally he had the greatest confidence in sticking to his shares, and every shareholder who did the same thing would, in the near future, find that he adopted the right course. The directors had given a great deal of time and thought to every detail of the working of the mine. Their difficulties of the future were unforeseen, but there were no difficulties which could not be satisfactorily overcome by engineering. They required time to get the machinery at work, and the pumping arrangements carried through. There could be no doubt that there were many hundreds of feet to be reached below the depth to which they had at present got. The directors had absolute confidence in asking them to stick to their shares, and trust the management.

The CHAIRMAN invited questions from the shareholders, and in reply to a question said the directors would prefer to wait until the company was paying dividends before they asked for their remuneration. (Hear, hear.) He did not think there was a gold mine in existence where fully a quarter of the capital was held by the board of directors. They trusted to the generosity of the shareholders when the time arrived to amply compensate them. (Hear, hear.)

A SHAREHOLDER suggested that the directors should have £1000 given them for their services. He felt they were fully entitled to it. (Hear, hear.)

The report and balance-sheet was adopted. The retiring directors were unanimously re-elected.

A SHAREHOLDER, in moving a vote of thanks to the Chairman, the directors, and Mr. Ernest R. Weakes, Associate R.S.M. (manager), for their services, said it was difficult to estimate the difficulties with which the directors had had to contend. The country itself formed no small hindrance. They met that day under some feeling of disappointment.—(A Voice: None whatever.)—Twelve months ago they certainly expected that at the next meeting a substantial dividend would have been declared. Still, from the statements which had been made—that everything possible had been done to develop the mine—it amounted simply to a question of waiting.

The CHAIRMAN, in reply, thanked them on behalf of himself, co-directors, and Mr. Weakes for the compliment which was unanimously passed. The shareholders had borne the burden and heat of the day, and he would be sorry now that brighter prospects were in store, to see his Manchester and other friends desert them. Of course, they had had disappointments, and these had been felt keenly by the directors. It was a consolation to know that they had always received the unanimous support of the shareholders. (Hear, hear.) He earnestly hoped that in the next six months they would be able to declare a dividend. (Applause).

WHITE FEATHER UNITED GOLD MINES (LIMITED).

A meeting was held at Winchester House on Wednesday. Our reporter was informed that the proceedings were private.

GREAT FINGALL REEFS, LIMITED.

The second ordinary general meeting of the shareholders in the Great Fingall Reefs (Limited) was held on Thursday, at Winchester House, Colonel R. PARRY NISBET, C.E., presiding.

The SECRETARY (Mr. H. Slaney) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—We are very glad, indeed, to meet the shareholders here this morning, because we ask your best assistance in the settlement of the affairs of this company, which for some time past have caused much anxiety and labour to your directors, but which, with your help and approval, can, I believe, to-day be placed on a satisfactory basis, which I trust nothing will again occur to disturb. Our original property at Ejudina was taken up by men, who, at the time, were held in the colony amongst the best judges of ground that afforded reliable prospects of rich returns of the precious metal searched for. The surface show at Fingall was, no doubt, remarkable; but after much toil and considerable expenditure in large and careful development, the result has proved disappointing. On receipt of unsatisfactory reports from our manager at the mine, your directors at once instructed their consulting engineers to give an opinion on the property, as proved by developments, and they proceeded in July last to make a thorough examination of the whole mine, and you have been informed of the result, and their recommendation to you is to abandon this property, as one that never can be made payable, and on this point you are asked to give your decision to-day. The property, as you are aware, was, when we took it over, as good a prospect as could be wished. Your directors could only act in the interests of the shareholders on the reports before them, encouraged, no doubt, by the opinion and enthusiasm of such men as our first Chairman, the late Mr. F. A. Thompson. It was Mr. Thompson who, with the approval of the board, arranged the purchase and dispatch of the 30-head stamp mill to the mine, in the view that with such large bodies of ore as were believed to be in sight, and only waiting to be crushed, any delay in the provision of machinery on the spot would be detrimental to the interests of the shareholders. I presume the shareholders will wish to be guided now by their consulting engineers, and, if so, then I suppose we must accept the opinion they have submitted to us—that it is useless expending more money on our present property; in other words, that it should be abandoned. This, then, brings me to the second part of my subject, which is the bright side of the future to-day—bright that in circumstance of disappointment generous help should come to us from a source we had no claim as of right to expect, and in a form I have no hesitation in describing, if not as original and unique, yet extremely rare in the annals of mining companies. I doubt if such an arrangement will ever be allowed to form a general precedent, but it is enough that it assures you as far as the companies behind us are concerned they will not permit any subsidiaries they have promoted to be left unaided in calamitous eventualities, where the fault is not due to bad management, but to circumstances beyond the control of the shareholders or the board. I need hardly say that your directors without hesitation highly recommend the offer now made for your hearty approval and acceptance. The negotiations which your responsible managers have been carrying on with those powerful companies and others who combine to offer you this valuable exchange, have demanded much time and thought to conclude successfully. I should do wrong, I think, if I omitted to say to whom your thanks are due. In mentioning the West Australian Gold Fields (Limited), the London and Western Australian Exploration Company (Limited), and the Western Australian Pioneers (Limited), I wish you to associate the names of Mr. Alan H. P. Stoneham, Mr. C. Algernon Moreing, and Mr. Herbert Moir—names distinguished and familiar to you as toilers and pioneers in some of the most valuable enterprises in Western Australia—as it is to these gentlemen your warmest thanks are due, if you accept the gift which their combined influence presents for your acceptance to-day. The property thus offered you in substitution for what you abandon consists of about 24 acres, situated about 8 miles north of Mount Pascoe, in the East Murchison mining district, in the colony of Western Australia. It is a fairly developed property, the report on which your directors have carefully studied, and they are equally open to the inspection of any shareholder in this room. I will ask Mr. Moreing, your consulting engineer, to give you more particulars of a technical kind about the property. If six months further development by your own mine manager does not satisfy us as to the value of the property, then we may decline it, and another property will be placed at our disposal, until we are in the possession of a first-class dividend payable mine. This is the offer made, and I venture to say its liberality and disinterestedness cannot be exceeded. There are, as the balance-sheet in your hands show, ample funds belonging to you to work a new property, so that it is not necessary to ask the shareholders to contribute another penny of working capital. Before I sit down, I should like to refer to the assistance that this company is, in accepting the offer of a new property, asked to give to the two subsidiary companies floated off the Great Fingalls property, in accordance with the policy sketched out originally. Both these subsidiary companies were formed when our company believed that all was sound and well with our property, but now they are sufferers like ourselves. You are asked to surrender to the two subsidiary companies—the Fingall Reefs Extended (Limited) and the North Fingalls Reefs (Limited), the vendors' shares we still hold in each. Those shares are at present valueless to us, but their surrender to those companies at once becomes a valuable asset to them, probably enabling them each to buy a new property, and start again on a successful career. To the less fortunate of the two subsidiaries, the North Fingalls Reef (Limited), you are asked to give the mill and machinery now on our ground. This machinery cannot be used by us on the property offered in substitution for the old mine, whereas if, as seems possible, the North Fingalls Reefs (Limited) take another property at no great distance from where they now are, the machinery will be of some value to them. As both the surrender of the vendors' shares and the machinery is made conditional on our acceptance from the donors of our new property, I think you will endorse these arrangements as fair and reasonable for all parties. Before sitting down, I frankly ask you to believe that your directors have done their utmost, under difficult circumstances, to rescue this company from what looked like a position of peril and loss, and I hope not without success. Before putting any resolution to the meeting, if any shareholder has any question to ask we shall have pleasure in giving any information in our power.

Mr. ALGERNON C. MOREING said he appeared that day in a dual capacity, for he was not only a member of the firm of the company's consulting engineers, but he was also manager of the London and Western Australian Exploration Company, with which this company was so intimately connected, and with whom the present arrangement was being made. The new property proposed to be handed over to the Great Fingall Reefs was situate at a point known as Mount Sir Samuel. The only place in the neighbourhood where a battery had already been erected was the town of Lawlers. That town had been very far away from the centres of present mining, but in spite of that a battery had been erected by the East Murchison Company, and it was giving satisfactory results. The East Murchison gold district, in which the new property was situated, had been formed by the Government on the results obtained at Lawlers. In June of the present year, Mr. Hooper, a partner in the firm of Bewick, Moreing and Co., in Australia, wrote as follows about the new property:—"The property was taken over on the advice of Mr. Wilson, the manager of the East Murchison United Gold Mining Company. It has recently been carefully inspected by Mr. Cullingworth"—whom they had always found to be a very cautious man. "Cue and Menzies will shortly be connected by railway to the coast, and before long the railway will be continued from one of these places to the north-eastern field. I look upon the North Coolgardie and the East Murchison gold fields as the coming districts, the reefs there having generally a better and more promising appearance than nearer to Coolgardie, and in this opinion I am upheld by some of the most conservative mining men we have out here." That was Mr. Hooper's opinion when he wrote, pressing upon him (Mr. Moreing) the advisability of purchasing this property for the Continental and Western Australian Trust. The property was first examined by Mr. Cullingworth, of the firm of Bewick, Moreing and Co., on April 17, and the conclusion he came to was that there was comparatively little work done on the claim, the prospectors having been labouring under very great disadvantages. The result of that examination in 1896 induced the Continental and West Australian Trust to take an option on the property to work it for three or four months, with the idea of purchasing it if they were satisfied. A manager was put in command, and from that date a large amount of work had been done. Mr. Cullingworth, who had again visited the mine after further work had been done, wrote on June 2:—"Work done. First bottom of the deep shaft on the protection area a drive east has been put in 8 feet, cutting the reef 3 feet wide, averaging in value 2 ounces to the ton. The shaft on the Acre lease is about 50 feet deep. The reef has improved in value; samples show 2 ounces, and reef is 2 feet thick. New shaft on protection area 15 feet deep, reef 2 feet, with an average value of 1½ ounce.—Remarks. The property is a valuable one. The stone raised averages 38 dwts. to 2 ounces of gold to the ton. Developments last two months are most satisfactory. Everywhere the reef is improving in value and size." A message from Mr. Dunsford, who was well known in connection with West Australian mining, and who had examined the mine, had telegraphed to the effect that it was a most promising property, an opinion which Mr. Dunsford had reiterated since his recent return to England. He (Mr. Moreing) might tell them at Mount Sir Samuel the London and West Australian Exploration Company were working a line of reef which was giving extraordinary results. The latest reports received were from Mr. Woodward, who was not an enthusiastic man about mining, and his samples ran from 8 to 10 ounces per ton. Speaking as to the general value of the district, the speaker said that close to the East Murchison United, at Lawlers, the West Australian Continental Trust had taken up another property, which had previously been examined by Mr. Woodward, who had taken numerous samples of extraordinary value. The Continental Trust were not giving this property away. They bought it for cash, and were selling it for cash, and they were making a handsome profit. But as that money was being paid by other parties, it did not concern anyone in that room. They were getting for nothing a large and valuable property which had cost a great deal of money. (Applause.) The Exploration Company and the Gold Fields were so extremely anxious that a failure of one of their companies should not occur again, that they were not likely to lightly enter into the flotation or purchase of properties in West Australia; and having made one failure, they were anxious that this company should not be landed with another property that was not payable, but they were satisfied, as an exploration company, that the property now being handed over was all right. In the case of this not turning out a good mine the company would not be landed with it, but the exploration companies would then look for another property, and give the shareholders a chance of having one that could not possible fail. It, therefore, seemed to him that this company must ultimately be a success, with all these large corporations behind it. (Applause.)

On the motion of the CHAIRMAN, seconded by Mr. R. C. OSBURN, the directors' report and accounts were then adopted.

The auditors, Messrs. Monkhouse, Stoneham, and Co., were re-appointed, and the provisional contract between the London and Western Australian Exploration Company (Limited), to which the Chairman referred, was unanimously approved.

A hearty vote of thanks to the Chairman and directors closed the meeting.

ANGLO GERMAN EXPLORATION COMPANY OF WESTERN AUSTRALIA, LIMITED.

The second ordinary general meeting of the shareholders in the Anglo-German Exploration Company of Western Australia (Limited) was held on Thursday, at Winchester House, E.C., Mr. W. F. ORRISS presiding.

The SECRETARY (Mr. E. Fairweather) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—It is my pleasant duty to-day to ask you to approve and adopt the report and accounts laid before you, showing the result of this company's operations for a period of 16 months. As you will have seen from the report, the net profit for this period amounts to £100,055 7s. 6d.—(cheers)—which is arrived at after writing off the entire preliminary expenses, and making ample provision for depreciation. Of this sum £61,190 13s. 7d. is profit in cash, and £38,864 13s. 11d. is profit in shares. This result has been achieved with a paid-up capital of under £36,000. (Hear, hear.) In October last we paid an interim dividend of 5s. per share, equal to 50 per cent. on our ordinary share capital, also an interim of £7 10s. on each of the deferred shares, and we now propose to pay, free of income tax, a further dividend of 2s. 6d. on the ordinary shares. The original shareholders in this company will then have received 7s. 6d. per share of 10s. paid, which is equivalent to 75 per cent. on the amount paid up. We also now propose to pay a further sum of £1 17s. 6d. on the deferred shares, making the dividend paid on these shares £9 7s. 6d. each. The deferred shareholders will then be entitled to divide equally with the ordinary any further distribution made before the 30th of April, 1897. These dividends absorb the sum of £31,250, leaving to be carried to reserve £66,583 3s. (Cheers.) This Anglo-German Exploration Company was the second company formed under the auspices of the Venture Syndicate, and I have recently had the opportunity of placing balance-sheets before the shareholders of the Venture Syndicate, and its first offshoot, the West Australian Mines Development Syndicate, it might interest you to hear the results of their combined working for a period of 15 months. The paid up capital of these three companies amounts to £75,545, and after writing off the entire preliminary expenses, and making suitable provision for depreciation, the net profit has amounted to £301,607 18s. 10d.—(cheers)—and after paying dividends amounting in all to £98,140, an aggregate of £203,077 7s. 8d. will be carried to reserve. The management of these three companies is almost identical both here and in Australia, and they have been engaged practically in the same operations. Our reason for placing so considerable a sum to reserve is the present depressed condition of the mining market, and should that condition of things continue, we wish, in conjunction with the companies allied with us, to be in the position of having ample resources to develop and work our own properties until times are more propitious for making further issues without making any further call upon our shareholders. The directors would like the shareholders to understand that notwithstanding the present depression they have, since the date of the present balance-sheet, made satisfactory progress, inasmuch as they have disposed of three of their properties, which should be completed before the end of the current year, and yield this company a handsome profit. You will notice that your directors have appropriated a portion of your capital to the purchase of land, and the erection of buildings in picked sites in Perth and Coolgardie. Our object in so doing was to provide suitable and ample accommodation for our staff, and at the same time to acquire valuable property out there, which we believe will prove a very desirable investment for the money which we have laid out. This Anglo-German Exploration Company was formed on May 1 last year, and I may say that it quite justifies its title, owing to the fact that our German friends have supported it liberally from the first, the major portion of the capital having been continuously held in Germany. We find our German friends most excellent shareholders, as if they are satisfied as to the constitution and management of a company in which they take an interest, they not only retain their

holdings, but interest themselves in any subsidiary company that may come out under the auspices of the parent company, and to-day out of a total list of 535 shareholders we find that 370 are German shareholders. The greatest difficulties which mining enterprise has had to contend with in Western Australia have been those of transport, water, and labour. To meet the difficulties of transport the Government have been rapidly pushing forward the extension of railways in the colony. With regard to water, as you are aware, an Act has been passed in the Legislative Assembly authorising the expenditure of some £2,500,000, which will, no doubt, go a long way to meet the local scarcity. With regard to labour, an Act has just been passed reducing the conditions upon which mining leases can be held from the old minimum of one man on every 3 acres to one man on every 5 acres, which is a distinct step in the right direction, and we hope it is to be followed by still further concessions. It has been suggested by large shareholders that a scheme of amalgamation of the nine companies known as the Venture group, and of which your company forms one, would be an advantageous thing in the interests of the combined shareholders. This idea, though it has not yet taken any concrete shape, is being considered by the directors of your company, which I must say on the strength of economy alone has a great deal to recommend it, and should a further and more careful review of the position satisfy them that such a combination is desirable in your interests, a scheme embodying such an idea will be laid before you in due course. I have only, further, gentlemen, to ask you to pass a well-deserved compliment to our managing director, Mr. W. A. Baker, and our manager, Mr. S. A. Bird, and the entire staff of the company, who have worked assiduously in your interest, and I feel sure that the shareholders will appreciate, as the directors do, the efforts of those gentlemen to make this company a great success. I now beg formally to move that the accounts and report submitted to this meeting shall be adopted. (Cheers.)

Mr. O. STANGE seconded the motion, and it was agreed to.

A SHAREHOLDER moved the re-election of the auditors, Messrs. Monthouse, Stoneham, and Co.

Mr. WILLIAMS seconded the resolution, and drew attention to the extremely satisfactory crushings of the West Australian local mines.

Mr. PARRY wished the directors had given them more information about the properties they held.

The CHAIRMAN replied that every week they published particulars about their properties in the Press, and he believed that all the shareholders saw these reports.

Mr. T. R. HASLAM moved, and Mr. BARBER seconded, a vote of thanks to the Chairman and directors.

The vote was heartily accorded, and the meeting then terminated.

THE JUMPERS GOLD MINING COMPANY, LIMITED.

The ninth annual general meeting of shareholders was held in the Board Room, City Chambers, Johannesburg, on Tuesday, October 27, at 11 o'clock.—Mr. JAMES HAY (Chairman) presided.

The SECRETARY (Mr. P. C. Haw) having read the notice convening the meeting, and the minutes of the 17th half-yearly general meeting of shareholders, held on April 14, having been read and confirmed, the CHAIRMAN proposed, and it was seconded by Mr. W. H. ROGERS, "that the directors' and auditors' reports, balance sheet, and profit and loss accounts, as printed and laid upon the table, be taken as read. Carried unanimously.

The CHAIRMAN, in moving the adoption of the report and confirmation of the accounts, said the period under review, the six months from February 1 to July 31, had not been a very successful one. As they were all aware, during the early period of this year, mining operations were anything but satisfactory, and afterwards they had considerable difficulties in obtaining natives, the cost of food was very much increased, and there was much difficulty in obtaining a supply of coal. All these things greatly added to the cost. Another difficulty was that Mr. Morrisby left at the end of the period for which he was engaged—that was at the end of February. They then appointed Mr. Hill, formerly of the Sheba Company, to take his place. In making that appointment, they knew perfectly well that Mr. Hill could not enter upon his duties for at least a month. Unfortunately, Mr. Hill was laid up with fever, and, instead of being able to take office within a month, was unable to do so until after an interval of three months. When the balance-sheet was made up, the manager had been in charge of the mine for only two months. Shareholders would, therefore, see the directors had exceptional difficulties to meet during the six months. Since Mr. Hill took office, the returns from the company had certainly improved, and the reports for August and September showed increased profits over the previous months of the half-year. Mr. Hill had increased the milling capacity of the old mill and had crushed during August 11,113 tons, and in September 11,449 tons which was certainly a fair record for a mill of the class of that which the company possessed. The directors were unable to pay a dividend for the last half-year, but he thought they might fairly assume that by the end of the year they would be able to do so. The exact figure would, of course, depend very largely on the success of running the mine during the next three months. He did not think there was anything calling for special comment in the accounts. They were presented in a form which clearly laid before the shareholders the condition and working of the mine during the past six months. At the last meeting the "bewaarplaatsen" question was fully explained. During the interval between last meeting and this, practically no change had taken place. The company have 23 claims on which licences are paid, and on which we have "bezitrecht," the remainder of the 52 claims being under the water rights, concerning which the Natal had made no decision. The directors still hoped they would be able to secure the mineral rights under those water rights. The matter was not being lost sight of by the directors, and they would do all in their power to secure those rights.

Mr. EPLER enquired how the reduction of native wages had worked.

The CHAIRMAN replied that so far there had been no difficulty whatever; everything was going on satisfactorily. Since the report was written some difficulty arose, but that did not arise from the question of pay at all. The natives objected to the Zulu policemen, and there was some little excitement. The ringleaders were taken before the authorities and punished, and the natives then went back to work without causing further trouble. He then proposed, seconded by Mr. S. C. BLACK, and carried unanimously:—"That the directors' and auditors' reports, balance sheet, and profit and loss accounts be adopted." It was further resolved:—"That the retiring directors, Messrs. James Hay and J. Berlein, be re-elected," and "that the election of Mr. Marcel Biver as a director be confirmed."

Proposed by Mr. S. C. BLACK, seconded by Mr. A. EPLER, and carried:—"That the remuneration of the auditors for past services be 25 guineas each, and that they (viz., Messrs. W. J. Dold and J. P. Abbott) be re-elected for the ensuing year."

A special general meeting of shareholders was held immediately following the above meeting, for the purpose of considering, and if thought advisable, adopting a new trust deed.

The CHAIRMAN stated that in accordance with the trust deed, 50,978 votes had to be represented at this meeting to revise, alter, or amend the regulations at present in force, and that 36,347 votes were represented. He said the old trust deed was anything but a workable one. In the first place, the voting power provided that shareholders got one vote for each of the first 100 shares, and after that one vote for every two shares, so that, practically, if they held 100 shares they got 100 votes, and if they held 200 they got 150 votes. A difficulty arose in the working of that clause, as the books had to be closed one month prior to any meeting, in order to ascertain the voting power. There were many other objections to the old trust deed. The company had been in existence nine years, and their trust deed was one of the oldest on the fields, and there were many parts which required very serious alteration. The board considered it advisable to have a new trust deed drawn, and that trust deed had been lying in the office here, and a copy had also been sent to London for the inspection of the shareholders there, so that they might be aware of all the alterations proposed. The main alteration of the trust deed was to provide for yearly instead of half-yearly meetings, which entailed considerable expense and labour on the part of the staff of the company. All this was utterly unproductive of good. Every month shareholders were furnished with a statement, showing the cost of working the mine, details of development, and also the returns from the mill and working cost. Therefore, it was comparatively easy for any shareholder who followed the course of events to keep an account of the monthly profits as they were announced. There was no provision in the old trust deed for directors providing alternates. This had been found to work very badly in the case of this company. They had cases in which men assumed the responsibility of directors, and then, when they had to be absent for some time, they were unable to appoint anyone to represent them on the board. In all modern trust deeds provision was made for alternates. The new trust deed also provided for giving shareholders in Europe ample notice of all meetings, and also when directors would be elected, in order that they might nominate anyone to fill the vacancies which would be caused by the retirement of those directors. The new trust deed also provided for one vote for every share in the company, and that the quorum required to effect alterations in the trust deed be reduced. With so many shareholders in Europe and scattered over the world, it was difficult to get a large representation to carry any alterations. The alterations which were proposed by the directors had been done in the interests of the company, and in asking the shareholders to accept the trust deed as it stood, the directors only asked them to act in their own interests.

The CHAIRMAN then moved, seconded by Mr. B. LAZARUS, and carried unanimously:—"That the trust deed, as typed and laid upon the table, be adopted, and that the directors be and are hereby authorised to take the necessary steps to register same."

BLAGROVE'S FREEHOLD GOLD MINING COMPANY, LIMITED.

The annual general meeting of shareholders in this company was held yesterday, at Winchester House, Old Broad-street, E.C.—Mr. HENRY WILSON presided.

The SECRETARY (Mr. W. J. Lavington) read the notice convening the meeting.

The CHAIRMAN said: You will observe that the balance-sheet which we now submit for your approval is for a period of 14 months. Under ordinary circumstances we should have called you together at an earlier period than this, so that some explanation is due to you as to the delay which has occurred in inviting you to receive our balance-sheet and report. The circumstances are simply this: In the earlier part of the summer we had unpleasant information from the other side—from New Zealand—to the effect that our manager (Captain Argall) had suffered very much in health. He endeavoured, however, still to discharge his duties, until at last his medical attendant insisted upon his ceasing all duties appertaining to the position he occupied, and recommended him to take a long sea voyage with a view to restoring his health. I am happy to say that Captain Argall is present to-day, and from him you will receive all the information you can possibly desire, not only as to this, but also in regard to another kindred enterprise. My first duty is to explain to you several items in the balance-sheet, and you will observe that the larger items have reference to the transactions in New Zealand. The expenditure is considerable, but that is always inseparable from the inception of any new company. I may mention to you that your property impinges upon Kapanga, and is situated in the very centre of the gold belt, so that all that our neighbours have we ought certainly to get. It embraces an area of 125 acres, some roods and poles, all of which is absolutely freehold. You paid for that in cash and shares £37,500, the amount of cash paid being £12,500, and the number of fully-paid shares 25,000. We have at present no shares to dispose of. They were all readily taken up with the exception of a portion that were retained in the hope that we should be able to dispose of them on your behalf at a price above par. If you will look at the auditors' side of the account you will see an item for premium on shares sold—£375. The next item is that of salaries for the officials in New Zealand, amounting to £914. The labour, surface, and underground work is always a large item in this account, and it is represented here by £2663. Every item of that sum has been carefully examined by your directors and also by the auditor with the vouchers attached thereto. The erection of machinery is represented by £120, which is a very small amount. The carriage refers to the carriage of materials to the mine, and works out at £259. There are other materials, such as coal, timber, explosives, &c., and that is an item which will not recur for some time. I may mention to you in this regard that the average we were formerly obliged to pay for coal was from £1 17s. 6d. to £1 18s. per ton. Since the management of the company has been undertaken by Captain Argall we get our coals for £1 14s. 6d., which is a very great economy. Freight, rent, cablegrams, &c., amount to £237. You are aware that we must keep ourselves in constant touch with the officials out there, in order, if possible, to give you information at least once a week. We cannot possibly do that by letter, because it would take from eight to nine weeks to get an answer to any question we might send, so that we are obliged to freely use the cable at an average expenditure of 5s. 2d. a word. We economise in that direction as far as it is possible to do so. The legal expenses in New Zealand work out at £305, and that is one of the items that will not occur again. It is mostly in connection with the transfer of the property and the payment of the taxes thereon that this expenditure was occasioned. The London expenses amount to £1864, including directors' fees, and are for a period of 14 months. The remuneration given to the directors, in accordance with the Articles of Association, is £550 per annum, and the expenses as to the formation of the company amount to £188. That, again, is an item which will not recur. The secretary, offices, and rent are entered at £346, and that is a very moderate amount if you consider that it embraces the remuneration of the secretary, and the accommodation given to the company in the way of offices, with any clerical assistance that may be required, and electric light, and fire for the winter. It would have been a very agreeable task for me to review the position of your property from the time it became the offshoot or the subsidiary company of the old Kapanga. You will remember that the Kapanga at one time embraced three different mines—the Kapanga, Blagrove's Freehold, and the Coromandel—now better known, and favourably known, as the Hauraki. Our property is entirely freehold, which is a very great advantage; and although it would be a congenial task for me to review the history of our company, I fear I should be anticipating some remarks which you will be pleased to hear from Captain Argall, who has but recently returned from your property. From him we shall receive all the information that you on that side of the table, or we, could possibly desire, so that, with your permission, I shall leave all matters relating to mining in itself to be dealt with by Captain Argall, and I will here propose to you the first resolution:—That the report as circulated, with the statement of accounts for 14 months ending June 30, be received and adopted.

Mr. S. GOLDSMID seconded the motion, which was carried unanimously.

The CHAIRMAN moved the re-election of Mr. F. G. Lane as a director of the company, saying that that gentleman was so well and favourably known for his association with the mining industry in London that any remarks concerning his fitness for his position as director would be both superfluous and improper.

Mr. S. GOLDSMID seconded the motion, which was carried unanimously.

Mr. LANE briefly returned thanks.

The auditors, Messrs. Bolton, Pitt, and Breden, were re-appointed.

Captain ARGALL, who was received with applause, said it afforded him great pleasure to meet the shareholders and to describe in a few remarks the past operations and the future prospects of the mine. The situation of the property was very good, standing, as it did, midway between the celebrated Hauraki and the Kapanga, which was in one corner almost pog to pog with their own property. It was on the same line of auriferous country as the Tokatea, which had returned a large amount of gold in the past, and in regard to its position generally for working, he did not think it could be any better. The class of rock with which they had to deal was analogous to that of the Thames, only that in one particular instance it was a little softer, which he considered a good sign. The property was floated as a company on the recommendation of himself and others, because they found on the eastern end several reefs varying in width from a few inches to 2 feet and 3 feet in width—notably, the famous Scotty's reef, which had produced such a large amount of gold in the Kapanga property. The Kapanga reef was also supposed to go through the property, and several gold-bearing leaders had also been found. The general direction was about north and south, dipping slightly to the eastward in some instances, and in other instances having an angle of about 45°. A great deal of prospecting work was done before the mine was brought out, and an engine shaft was sunk in a spot fixed after minute survey, and that shaft had been sunk to a depth of a little over 200 feet. At the 160 feet level they put a main crosscut out east, with the result that they had cut at least two or three reefs. When they sunk the engine shaft, in the first instance, they encountered irregular rock, but when they got down a little lower they found a hard block of diorite rock, which threw the reefs to the north-east, and, consequently, the work took them longer than they thought at first. He was, however, pleased to say that the reefs contained gold, and from information which had just arrived from the mines he found that the lode at the 200 feet level contained free gold, which meant to say that it was payable. Another thing which he wished to say in connection with this property was that some 15 years ago several prospectors explored a portion of that ground, and sunk a small shaft or winze to a depth of 40 feet. When he took over the management of the property gold was supposed to be at the bottom of the winze, and he was pleased to say that they had got underneath the winze and had found gold there. (Applause.) The main shaft was well timbered, they had a good pump, and everything was well equipped about the mine. Buildings had been erected, such as a smith's shop, offices, and houses for the machinery and for the men to change in. As he had stated before, the main shaft was down 200 feet, or about 80 feet below the level of the sea. They would understand that all the gold in the Coromandel district was down below the level of the sea, and he hoped that they would soon be in receipt of very good news from the mine, to the effect that they had got a good supply of payable ore. It had taken some time to carry out the development work, but that time was now nearly over, although it was, of course, intended to continue the development works afterwards. It was intended to sink the shaft to the 300 feet level as soon as possible, but at the present time he was sorry to say that, owing to the cutting of reefs at the 160 feet and 200 feet levels, so large a quantity of water had been let in that it had been found necessary to send out another pumping engine. A main road had been made from the wharf to the mine, the cost of which had been defrayed by the County Council, and although it was not altogether well metalled they had no difficulty in getting the stores over it. It was hardly necessary for him to cover again the ground which he had traversed in his former reports. In one of them he had said that there was a large number of reefs on the property, and this statement they were now proving. He had, in fact, every confidence in the property. As he had already stated, at the 200 feet level they had come on good ore, and he had every confidence that the future of the mines would be one of great productiveness. As they all know, the ore in the Coromandel district was really very patchy. They might come upon a very rich patch at any moment, such as had often been found at the Kapanga Mine, and also in the celebrated Hauraki. Generally speaking, however, the ore would go about 1 ounce to the ton. In the telegram which had come to hand that day it was stated that he had just been in the mine, and that the recent development showed that the property would turn out very successful. He had every confidence in the future of the company, and on his return his efforts would be as much at the service of the company as they had been in the past. (Applause.)

The CHAIRMAN said he had no doubt that the statement which the shareholders had just heard, coming from such an authoritative source, would be sufficient to dispel any doubts they might have entertained in regard to the value of the mine. It was also highly satisfactory to find that Captain Argall had such absolute confidence in the position of the company. No doubt his statement would have been sufficient to satisfy the shareholders that they were owners of a property likely to become remunerative. The Chairman read the following communication which had come to hand from the mine on the day before yesterday:—"November 23: Main crosscut. A considerable stream of water is constantly flowing, and we still believe the reef is yet ahead. Driving on reef at the 200 feet level. Ore shows free gold. I think the result will be satisfactory. The indications are favourable in every way for getting payable ore shortly. I have been in the to-day, and I think the recent developments show that there is every prospect of success."

Captain ARGALL, in answer to a SHAREHOLDER, said that he estimated the cost of mining and milling at about 25s. per ton.

The CHAIRMAN said the shareholders might depend upon it that everything which skill and energy could do to ensure the success of the company would be done.

A hearty vote of thanks to Captain Argall terminated the proceedings.

CHILIAN COAL.—Advices have reached London to the effect that two Belgian engineers have been examining the Pacheco coal fields, Chili, with the view of forming a company to work them.

HANNAN'S BROWNHILL GOLD MINING COMPANY, LIMITED.

The second ordinary general meeting of the shareholders in the Hannan's Brownhill Gold Mining Company (Limited) was held yesterday, at Winchester House, E.C., Mr. JAMES J. WALLIS (Chairman of the company) presiding.

The SECRETARY (Mr. H. Slaney) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—Your directors, confident of the immense value of the mine, confident in their expert advisers, and confident of the support all through of their shareholders, have steadily proceeded with the opening up of the mine, and the development of a suitable process for the extraction of the gold, and although they have naturally had to contend with great difficulties, they are pleased to congratulate their shareholders (who have so manfully stood by them during this period of development) on the present position of the company's affairs. Your directors think it hardly worth while referring to the attacks made on your property by anonymous correspondents in the papers, although these attacks may in some cases have had an effect on shareholders who are unaware of the true facts. I feel satisfied that when you have heard what we have to tell you to-day, in conjunction with the report which you have in your hands, that you will realise the advantage of the offer to be submitted to you. I must recall to your minds that we were one of the first mining companies to start work on the Hannan's field, and when it was started no sinking had been done, and there was no water of any kind known to exist on the mine. Salt water in small quantities had to be obtained from a distance and condensed into fresh water for drinking purposes, and the local engineers not only wrote but telegraphed to us that at that time they could see no prospect of obtaining water even for steaming purposes. These were the conditions we had to contend with as far as water was concerned. With regard to the ore, the surface ore which was exposed to view (which contained very rich gold) was of a quartzose nature and did not resemble the immense quantities of rich material which have since been opened up at depth, and which are of a specially micaceous and talcose nature. The directors, under the advice of their consulting engineers, Messrs. Bewick, Moreing, and Co, who, in conjunction with Messrs. McArthur and Yates, of the African Gold Recovery Company, took infinite trouble to work out a process of treating the ore with a minimum consumption of water, ordered the construction of the machinery and mill, which, as I have said, has caused so much discussion, and been so much attacked. After the usual delay, difficulties, and expense of erecting a mill in Western Australia, at a trial of the machinery it was found that the ore which had been extracted from the mine during the development had greatly changed in character, and contained an enormous quantity of slimy particles. These clogged up the various parts of the machinery owing to the occurrence of the slime in such quantities not having been anticipated. Now, gentlemen, our managers state that the presence of this slime in the ore is by no means an insuperable difficulty, and if we had known at an earlier period that such large quantities were present in the ore steps would have been taken to deal with it. As soon as the directors were informed of the difficulties they, of course, consulted with their engineers, and Mr. Moreing, who is well versed in the latest processes of ore extraction, informed them that the alterations required to deal with the ore as now found were such as could be easily carried out, and as soon as sufficient information arrived home to enable the necessary drawings to be made, these alterations and additions were put in hand and sent out, and we believe that we are on the eve of getting regular and satisfactory results from the mill. Now, with regard to the debt which has been incurred by your directors in bringing your property into its present state of development. This company, at its initiation, started with inadequate capital, as, I think I may safely say, did most other companies in West Australia, which were formed at the same time and for some time afterwards. Nobody knew the difficulties, expenses, and delays which were going to occur before this gold field was opened up by railways and good roads. The directors did not wish to come before the shareholders and ask them for money during these times; confident of the value of their property, as I have said before, they have thought it better policy, in the interests of the shareholders, to obtain funds without taking them out of the pockets of the shareholders, and they have been fortunate in having at their backs so powerful and enterprising a corporation as the London and West Australian Exploration Company. That corporation, having large funds at their disposal, and its managers knowing the value of this property, have been willing to advance to this company, from time to time, the funds required by the directors to bring it into a satisfactory position. The amount so advanced up to the present time has been £25,000, and as there is ore developed in the mine which will show on the most conservative and timid estimates by experts a profit of over £1,000,000 sterling, this trifling indebtedness is not very alarming. As this money has been expended on capital account, it is not desirable that it should be paid off out of the first profits derived from the mine, because this policy would keep from the shareholders legitimate dividends, which it is the desire of your directors should go into their pockets at the earliest possible moment. Your directors and engineers have given, as you can well imagine, an enormous amount of time, thought, and consideration to the recommendations which they are going to put before you to-day. I may tell you that they have been approached by many of the companies on the north, south, east, and west, with a view of amalgamation. You have no idea how many companies who have properties in the neighbourhood of your mine are keenly anxious to exchange their shares for a far fewer number of shares in your company. Your directors have been in the position of guardians and trustees of a beautiful and wealthy heiress—an heiress surrounded with suitors—but they have come to the conclusion that their beautiful heiress is still too young and too tender to enter into any matrimonial relations, although, I may add, some of the suitors are highly respectable and have good prospects. The most suitable proposal which has come before your directors, and one which has strongly appealed to them as being enormously to the advantage of the company and its shareholders is that of the Anglo-Continental Gold Syndicate (Limited), which is referred to in the report, and for which we are going to ask, and fully expect to obtain, your unanimous approval. The proposal of this company is to subscribe for 10,000 shares in your company at the rate of £4 per share. The £40,000 which we thus acquire is to be devoted to paying off our debt to the London and West Australian Exploration Company, and the balance to the active development of the mine in depth. They further propose to erect on our property a magnificent and perfectly fitted mill, capable of treating 100 tons of ore per day on a well considered system of dry crushing, a process which your consulting engineers have carefully studied and considered, and report to be, without doubt, in every way most suitable, and one which they have no hesitation in advising us cannot possibly fail to give the most satisfactory results. The cost of this mill is estimated to be about £60,000, and naturally your directors feel that to expend so large a sum of money, even on the advice of such competent advisers as Messrs. Bowick, Moreing, and Co., is, with their past experience, rather a too enterprising proceeding for them to put before their shareholders. In addition to the cost of this mill being £60,000, the complete process involved is protected by patents, and the owners of these patents (the Anglo-Continental Gold Syndicate) would require a royalty for its use, and even if that royalty is a very small percentage of the gold, calculated on the enormous riches which the directors are advised to be in your mine, it would amount to a very large sum. The Anglo-Continental Syndicate are so satisfied of the value of the process, and so satisfied with (which is still more satisfactory to us) the value of our mine, that they propose to erect this mill on our property, taking payment for it only when it is erected and working to the satisfaction of the board, in shares of this company, and then by a payment to include the total cost of the mill and all royalties of 25,000 shares of £1 each. You will see, therefore, that under these proposals only 10,000 new shares of £1 each are issued at the present time, for which your directors get £40,000 cash, and which only brings your capital up to £85,000. The issue of the further 25,000 shares can only be made a year or more hence, when the mill is erected and everything is working satisfactorily. Such terms as these are not often obtained by a mining company, and it is only owing to the financial strength and the firm confidence in the mine and process of those making the offer, that the directors have been able to put, what they consider such a splendid proposal before you for approval to-day, and we feel satisfied that you will, as I have said before, adopt this proposal with unanimity. One word more; it is only natural that people who take such an enormous interest in your concern, and whose interest must remain in the company for a long time to come, should be represented on the board. At the present time you have five directors, which is the full number allowed by your Articles of Association. We cannot think that you wish to displace any of those directors, who have done, as we think, so well for you in the past, and who are anxious to continue serving you in the future. It is, therefore, necessary to authorise that the board of directors be increased from five to seven, and this, I hope, you will also unanimously approve. Gentlemen, I think the proposition has been fully and faithfully placed before you, but if you have any questions to ask, we shall be pleased to answer them, and if you wish to know anything more as to the ore in the mine, or as to the machinery question, Mr. Moreing is here, and will, no doubt, give you any technical information you may require.

Mr. LA PAGE seconded the resolution, and said, having recently visited the mine, he could testify to the thorough manner in which the development work had been carried out.

Mr. C. ALGERNON MOREING, replying to questions asked by several shareholders, said it seemed to be the impression of several gentlemen that the new machinery which was to be sent out would displace the old plant. This was by no means intended. The present machinery, which they expected would shortly work up to its estimated capacity of 30 tons per day, would continue to crush, and, during the erection of the new machinery, they expected that it would be the means of producing sufficient profits to pay satisfactory dividends to the shareholders while they were waiting. (Applause.) The new machinery was simply an addition on a large scale, being rendered necessary by the extraordinary developments in the mine. The results of the operations already carried out showed it to be a more wonderful mine than even the most sanguine of them anticipated. They were now proposing, therefore, to add to their machinery in consequence of their experience. They must remember that they were the pioneers in the dry crushing treatment, and, as had been explained, they now found greater difficulties to contend with than was expected would be the case. They found that the ore was of better quality. He had very carefully studied the Pape-Henneberg Gopner-Diehl process, and was satisfied that it was a better one than they had at present got. He, therefore, could not help seeing the immense advantage given to that company by the enterprise of the Anglo-Continental Gold Syndicate, who were prepared to risk everything on the complete success of their process and the value of their mine. As to the value of the reserves of ore, he might mention that the Anglo-Continental Syndicate, before concluding their negotiations with the directors, sent out two experts to examine and report on the property. They were Mr. Boucher, late chief engineer of the Consolidated Gold Fields of South Africa, and Mr. Probys. Mr. Boucher's estimate of the amount there was developed was 100,000 tons—a marvellous quantity when they considered the fact that the mine had been hardly touched. They believed that the whole length of the mine contained the ore shoot, and were perfectly satisfied of its permanency down to any reasonable depth. Professor Schmeisser, when he went down the mine, said it was a marvellous one so far as they had proved it, but he was not sure that the deposit would go down in depth. He could express no opinion until they had proved it to exist in the hard undecomposed diorite. If it did, he added, then it would be a permanent lode, and its depth might be incalculable. Well, they decided to go down into the hard rock and see if the vein was there. On reaching the necessary depth they found it was there, and believed that it was even richer than it had been in the levels above. Mr. Boucher when on the mine took 64 samples from various parts of the mine and the average assay value of these was 4 ounces per ton. However, the directors themselves preferred to estimate the value at only 3 ounces a ton as a more safe calculation of the ultimate production of the mine, and he believed they all knew that no mine had ever produced 3 ounces per ton continuously until the discovery of the West Australian mines. There was very little difference in the ore in Hannan's Brownhill Mine and that in the Great Boulder or Lake View Consols. These companies had adopted the stamp batteries temporarily because they had carried out a rather different policy to theirs. They were later than Hannan's Brownhill in getting to work, and water had been discovered in the district when they started. Therefore, it suited them to immediately turn out gold, but he could tell them that the trials made at Hannan's Brownhill proved that only 65 per cent. of the gold contents of the ore was extracted. The balance went into the tailings, and would be extremely difficult to extract. Therefore, he was quite convinced that those companies were only using stamp batteries till they saw what results the Hannan's Brownhill obtained by a purely dry process, and ultimately he believed they would all adopt the system because it would be cheaper and more effective. He knew, as a matter of fact, that all the leading engineers in Australia were awaiting their results. In regard to the test as to when the new machinery would be considered to be working satisfactorily by the company, the Anglo-Continental Syndicate had agreed to run the mill for a month in full work. If this experiment was satisfactory the company would then take over the plant. He had seen large quantities of ore dealt with by the process which extracted 90 per cent. of the gold at a cost of £1 5s. per ton. Should they get as good results they would be wonderfully favourable to the progress of the company. At the present time, the cost of extraction was about £4 a ton, and if it was reduced to £1 5s. the result of dealing with 3 ounce stone would yield extraordinary profits. Referring to the present price of the shares, he pointed out that their mine was by no means the only one that had depreciated in its market value. He was, however, quite sure that the new process would give them extremely good profits, and, at the same time, increase the value of their shares.

The CHAIRMAN, replying to Mr. ALLAN P. STONEHAM, said the new mill would crush 100 tons per day.

The resolution was then put and carried.

The CHAIRMAN then moved the acceptance of the proposal made by the Anglo-Continental Gold Syndicate (Limited) to supply further capital and erecting machinery.

Mr. MOREING seconded the motion, and it was agreed to.

The auditors, Messrs. Monkhouse, Stoneham, and Co., were re-appointed.

An extraordinary general meeting of the company was subsequently held, when the two following resolutions were carried:—"1. That the capital of the company be increased to £110,000 by the creation of 35,000 new shares of £1 each.—2. That the Articles of Association be altered in the manner following—viz.: In Articles 83, 86, and 88 the word 'Seven' shall be substituted for the word 'Five.'"

Votes of thanks to the Chairman and to Mr. Moreing concluded the meeting.

KAPANGA GOLD MINING COMPANY, LIMITED.

An extraordinary general meeting of the shareholders in the Kapanga Gold Mining Company (Limited) took place yesterday, at Winchester House, E.C., Mr. HENRY C. WILSON presiding.

The SECRETARY (Mr. W. J. Lavington) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—The object of this meeting is, as I presume you are aware, to hear a statemet from Captain Argall, who has recently returned from New Zealand. It will be a pleasure to him to review the position of your property, and give you all information he can up to a recent date. He will be pleased to answer any question you may put to him, so long as it is relevant to the Kapanga Mine.

Captain ARGALL said: Gentlemen—It affords me great pleasure to say a few words to you with regard to the pioneer mine of the colony, and the deepest at the present moment. The Kapanga Mine, as it now stands, is somewhere about 1000 feet deep. In the past I may say the career of the Kapanga has seen a good many ups and downs. At the commencement the mine turned out very rich, especially at the shallow levels, and that went on until we got down below the 300 feet level. Since that time the country rock was not so good as formerly. It changed not for the better. It was not so productive in gold-bearing reefs below this point. It has always been my contention that we shall get rich ore in depth, consequently I advised the board to allow me to sink. The shaft was sunk, and in sinking we passed through a much better class of country rock, it being more congenial for gold-bearing reefs. The deeper we got, so the country improved until we came to about the 900 feet. At that particular point the country was even better, in my estimation, than the country at the 300 feet level. The reef system, which we encountered there in depth were coming in from the Tokatea Hill. These reefs system comprise certain reefs which drop off from the hanging wall portion of the mother reef of the district called the Tokatea Main reef. We encountered these reefs while sinking our shaft; in fact, we found a system of reefs, but I cannot tell the number. We shall, however, in depth get the main Tokatea reef. The amount of work which has been done has not been very profitable up to the present. But we have been exploring our shallow levels, and, at the same time, sinking with a view of getting other reefs, which I may say we have now cut. I will now describe the Kapanga reefs. They are almost parallel reefs, having a bearing of about north-east and south-west. The distance between them varies considerably at the different levels, but they are supposed to junction in depth, and we are striving to find out at what point they will do this. You must understand, however, that these reefs change their underlie so quickly at times that we are thrown out of our reckoning altogether. These reefs are two well-defined bodies—the Scotty's, which has a soft hanging wall, and the Kapanga, which has a very hard hanging wall. Between these two reefs there is a channel of good country, and it strikes me very forcibly, and I have always maintained that these two reefs must junction in depth, and when they do come together we may expect very rich ore indeed. We have worked these in the shallow level, and we shall work them again at depth. We are at the present moment crosscutting with this object in view. It will be a very long way from the shaft, but we shall continue to crosscut until we strike both the Scotty's and the Kapanga. In the meanwhile we shall be working on the reefs we have already gone through in the shaft, where, I am pleased to say, from the latest information we have got, some very rich ore has been found up to the present. (Applause.) Just what we expected to get. The composition of the reefs in this particular portion of the gold field is rather peculiar. Sometimes in depth we get a good deal of quartz, at other times very little quartz, or what we call "mullock." But in this "mullock" or waste rock we find the presence of gold in very small quantities; especially in the Kapanga reef proper is this formation met with, and it is a good indication. At times we find native arsenic which is a very rare thing, but when you find that you know that gold exists. We also find arsenical pyrites, iron pyrites, and even "pug," a kind of tough clay, and when we get that we are almost bound to find rich ore embedded in it. The depth of the present shaft is a little over 1000 feet. We are opening it up, and have found reefs there, and at 940 feet and 900 feet we have also found reefs, all of which contain gold. We have not had sufficient time to develop the reefs properly, but seeing that they contain gold I consider it a very good indication that we are going to have prosperity in the future. A large amount of development work has been done on this particular property, and we have a large amount of work before us still, but we are going to get gold all along. I shall strongly advise the further sinking of the engine shaft with a view of going down another 1000 feet, as I firmly believe in deep sinking in New Zealand. My experience is that the deeper we go the richer the ore. The rock formation in New Zealand is rather peculiar; it is andesitic, a volcanic kind of stuff, which is known to be very productive. It takes time to get to the igneous or granite formation, but between this there is a metamorphic slate rock which has been proved in the Tokatea Mine to carry auriferous reefs, and I have every reason to believe that we shall cut that rock in depth, and I have every confidence that it will be productive when we get into it. Gentlemen, there is another portion of our property which I have not said much about at present. It is called the Corby section. This joins the Scotty's Hauraki. We have several reefs there, but, unfortunately, when we tried to sink and work on these reefs the water was so abundant that we were obliged to suspend operations until the mine was unwatered. The latest information

however, says that everything is going on well. We shall prove the reef system there as quickly as possible, and I have every confidence that you will get good gold. We have proved right the surface by sinking small winzes, and, as far as they go, we have really got splendid results. The shaft will be sunk as speedily as possible in conjunction with our main shaft, so that, after a while, we can make our connections right through. Before I left we found that our winding engine was not of sufficient capacity to carry on the work of the mine, but we have fixed up our old rotary pumping engine, and I am pleased to say it is working very satisfactorily, and we can go at the rate of 1000 feet per minute. The engine is also capable of pumping water at the depth of 2000 and 3000 feet. So that you see that your mine is well equipped, and we do not require any more machinery. We can go down 2000 feet if we so wish, and I shall certainly advise the sinking of the shaft to that depth, as I feel sure in my own mind that in depth you are going to get your gold. At the present moment in the Thames Hauraki I do not know what depth they intend sinking to, but with the machinery they have got they can go down 5000 feet. I think they have taken their cue from the Kapanga Company. Gentlemen, I do not think I have much more to say. I think I have stated as fully as possible the work we have done. We have got the reefs, gentlemen, and a property which is very large—100 acres in extent. In fact, it is rather too large. We ought really to be prospecting on other portions of it to do it justice; but, at any rate, you have the machinery and the property and the reefs, and I have every confidence that the future prospects of this mine will be very good indeed. I must congratulate you on having such a property. I feel sure that now we are down such a depth we are really going to get something. The indications are such that they lead me to say that I have full faith that we shall, in the near future, see the mine a gold producer. You do not want anything further; the mine is fully equipped: the only thing we want is sufficient development to get the ore out. (Hear, hear).

The CHAIRMAN said perhaps some gentleman on the other side of the table would wish to put some question with reference to any point he was imperfectly informed upon. If they had not then he believed he might fairly infer that the statement Capt. Argall had made with regard to their property was satisfactory. He had told them the result of the development in depth, more especially, which was a question of probably greater importance than might appear to them at the present moment. He had mentioned to them that for many years this and other mines in the Northern Island were worked for what they were worth only down to 350 feet below the surface. He thought it would be in the recollection of the shareholders the many difficulties they had had to contend with, but he thought they had now every reason to have full confidence in the property. The work done in the past few years had settled once and for all the question as to the value of the mine in depth in New Zealand. Many mines, as they know, had lately been introduced to the public with a view to deep workings being carried on, but there were entirely indebted to the Kapanga Company for the proofs they had given that deep workings would pay. Whether Captain Argall's policy as to sinking much deeper would be carried out or not would be a question of the future, so long as they got gold from the present workings, but he thought the advice given was very sound. He believed they were all perfectly satisfied with the report Captain Argall had given them, and the least they could do was to express their acknowledgments in the form of a vote of thanks to him.

A SHAREHOLDER then moved a vote of thanks to Captain Argall, which was seconded and carried unanimously.

Subsequently replying to a SHAREHOLDER, Captain ARGALL said he would not like to give the actual assay values of the rock which had been struck during the sinking of the main shaft. Some of them gave hundreds of ounces to the ton, and it would be ridiculous for him to say that the bulk of the ore would come out at anything like such a figure.

A vote of thanks to the Chairman concluded the meeting.

WEST AUSTRALIAN (GOLD DISTRICT) TRADING CORPORATION, LIMITED.

A general meeting of shareholders in the West Australian (Gold District) Trading Corporation (Limited) was held yesterday, at Winchester House, E.C., Sir EDWARD LEE presiding.

The SECRETARY having read the notice convening the meeting,

The CHAIRMAN explained that the meeting was simply a statutory meeting, held in compliance with the law, and was of a more or less formal character. The directors thought, however, that it would be a good opportunity to put the shareholders into possession of the best information relating to the company and its immediate prospects. Many present would regret the absence of the managing director, Mr. Goodman, whose health had been broken down by anxiety and over work. He (the Chairman) had seen him on the previous day, when he handed him a memorandum of the remarks he had proposed to deliver, and had asked that the shareholders might be told of his wish to take them fully into his confidence. His own opinion was that in times gone by Mr. Goodman had been rather too roseate in his views in relation to the company. He might, however, read the remarks which Mr. Goodman had put on to paper. The Chairman then proceeded to read the document in question, in which Mr. Goodman said:—"I need hardly tell you that there is an immense scope for an undertaking such as ours in West Australia, and you will fully realise where an undertaking such as ours has its workings 17,000 miles away that naturally a large amount of time is taken up in maturing projects, completing arrangements, and establishing them on a sure footing so necessary for satisfactory business in a new country. You are aware our corporation has now had an existence of four months, and I can assure you that an enormous amount of detail has had to be dealt with in the transference of property and the enlargement of business contists, which, within the short time of four months, is very difficult to bring into that high state of proficiency that you have a right to expect, and which is necessary for so gigantic an undertaking as ours. Since I last had the pleasure of meeting you we have purchased and obtained the possession of what is admittedly one of the finest wholesale and retail stores in Fremantle, and this acquisition will form the distributing centre of those many rising towns which are daily growing in importance." Mr. Goodman then goes on to say:—"One word with regard to the price of the shares as quoted to-day. You naturally require me to say something upon this matter, and I have no doubt many of you come here regretting that you ever joined this corporation. Your losses momentarily, perhaps, may seem considerable; but if it is considerable to you, what must it be to me? I have loyally stood by the corporation and your interests, and I intend to continue to do so so long as I retain your confidence. I may say in regard to the fall in the price of the shares that there is nothing known to me or my co-directors to justify the attack which has been made upon them. It is apparent to every one that in all classes of mining securities there has been a substantial fall, especially in West Australian properties. But when I turn and look at another continent, the great African gold-producing country, I see the fall there has been even greater than in West Australia. You are aware, of course, that there have been considerable difficulties in West Australia arising both from the labour movement and the scarcity of water and timber, and necessarily anything that influences the mining community must react upon us, as our trade is primarily in the country amongst that class of buyers. Still, I can safely say—and in this respect my co-directors agree with me—that we are perfectly satisfied with the progress the corporation has made and the prospects for the future." The Chairman added, on his own behalf, that he agreed in the main with what Mr. Goodman had stated, only he was hardly inclined to agree that the company was in quite so satisfactory a position as Mr. Goodman believed. They wanted new blood on the board, and the undertaking was of such a good character that he was sure there would be plenty of good business men ready to come forward and take that position. They had spent a large amount of money in sending goods to Australia, but they had not had as yet an opportunity of realising them. They remained, however, as very valuable assets. Then, again, they had the Ore Atomic Process, in which he was a strong believer. There was a large parent company already existing with a vast amount of capital at its back, which was now initiating contracts in every part of the globe for working that process. In regard to the company's trading in Australia it was, as Mr. Goodman had stated, very unfortunate that they were situated so far from their centre of operations, but they were fortunate in having their late manager, Mr. Grant, present, who would inform the shareholders of the actual state of affairs at the mine.

A SHAREHOLDER enquired how many shares—both founders' and ordinary—had been issued in connection with the company.

The CHAIRMAN said that he, personally, was unable to answer this question. He had never sold a single share in the company, either directly or indirectly. He had no doubt, however, that the secretary would be able to supply the required information.

Mr. GRANT, the company's late manager, said he had arrived last week from Australia, and he was there to give shareholders the fullest possible information as to the management of the company on the other side of the water. It was not his province to criticise at all the action of the directors, but he could not refrain from expressing dissatisfaction at the nature of the shipments of goods which were sent out to him in Australia to dispose of. These shipments were, however, faithfully and loyally dealt with on the other side in the interests of the corporation. He knew nothing of Stock Exchange transactions, but it seemed to him that it would be a public scandal if the investments of the shareholders in the shares of that corporation should be rendered absolutely valueless by reason of certain Stock Exchange movements in London. The company had on the other side, in West Australia, an unlimited market for trade, and that was what the company was formed for. Goods could be bought in London and sold in Western Australia at very high profits. The further afield the goods were taken the greater would be the profits. There were goods which could be sold to great advantage in the colony to the profit of the shareholders. While at Fremantle he had acquired from Mr. Moylan, a gentleman who had been highly recommended to him, a good business as a wine and spirit dealer, to which there were also connected three agencies that would, no doubt, turn out in the future to be highly profitable. As regards the Ore Atomic Process, he believed, from what he had heard, that it was of a very excellent character, but the experts in the West Australian gold fields, who were among the best in the world, were naturally disinclined to adopt a process unless it were thoroughly tested, and, though desirous of doing so, he had been unable to arrange for a private test of the process. If, however, it was all that it was represented to be—(A Voice: It is!)—There could be no doubt that it would be sufficient in itself to return a very handsome dividend to the shareholders. The Greenhills Mine, which had been acquired in the interests of the corporation was a very valuable mine, and if it were only energetically worked and a battery erected, it would probably pay handsomely. In conclusion, he might state that he had already made suggestions to the directors as to the future management of the corporation and he believed that they would eventually be carried out.

Mr. MATHESON, a solicitor, who represented 20 shareholders, said he had no doubt that if they could only get rid of the Stock Exchange operations, and confine themselves to fair and honest trading, for which he believed there was ample scope, the company would turn out to be a great success.

In answer to a SHAREHOLDER, who pointed out that the question asked at an earlier period of the meeting had not been answered, the CHAIRMAN said there were 220,000 shares issued to the members of the old syndicate, 120,000 shares paid to the proprietors of the Ore Atomic Process, 13,200 offered for public subscription, 1500 given in part to Mr. Moylan, 8000 paid for the Owenstone, and 4000 shares for the Rockdrill, making altogether 366,700 shares.

Shortly afterwards the proceedings terminated, it being understood that another meeting was to be called at an early date.

MINES POSSESSION COMPANY (LIMITED).

The ordinary general meeting of this company was held at Winchester House, on Monday.—Mr. F. A. Gillam, who presided, in moving the adoption of the report, expressed pleasure that the directors were able to give such a good account of their stewardship for the first year of the company's working. When they last met they asked permission to increase the capital from £3500, at which it then stood, to £100,000. The authority for this had been given by the shareholders, but only £16,887 of the amount had as yet been issued. With this capital called up they had at present ample cash in hand for all requirements; but their business was of a growing and complicated nature, and shareholders might possibly have a further opportunity of increasing their holdings. The sum at credit to profit and loss account for the year was £5003, out of which a dividend at the rate of 25 per cent. on the paid up capital was recommended, carrying forward £1454, which, he ventured to say, was by no means a bad result. The Union Mine, upon which the foundation of the company rested in the first place, had been disposed of to the Barberton Consolidated Gold Fields (Limited) for cash and shares, the latter of which stood in the account at the low figure of 4s. per share. Valuable options in the Potchefstroom and Heidelberg districts of the Transvaal had been acquired in connection with a powerful Cape Town syndicate. There were 1284 mining claims, besides farms of 20,000 acres in the Vryheid district, in which both gold and coal had been found.—Baron d'Inhaca seconded the adoption of the report, which was carried.—An extraordinary general meeting was then held for the purpose of altering the Articles of Association, providing for the remuneration of directors, and giving 10 per cent. of the profits divisible in each year, in addition to a fixed fee of £100.

AT present there is in the Press, and to be issued shortly, a British Columbia Year Book. In this volume, which will consist of from 300 to 400 pages, special chapters will be devoted to Mining, Agriculture, Timber, and Fisheries.

VICTORIAN GOLD ESTATES COMPANY (LIMITED).

Mr. Tyndale White presided on Monday at a statutory meeting of this company, held at Winchester House, E.C. He explained that Lord Warwick would have occupied the chair but for the fact that he was unavoidably kept out of town by another important meeting which it was necessary for him to attend. His lordship, however, had committed his speech to writing, and in this statement he spoke in the most sanguine terms of the position and future prospects of the company. Their property, so far as means had been available, had been explored at the instance of the Victorian Government, by means of bores, which had fully determined the character of the ground to be operated upon. Perhaps no better evidence of this test was to be found than the fact that the Government Geologist, Mr. R. A. F. Murray, who personally superintended the bores, had resigned his official position in order to act as the company's consulting engineer. The property of the company had an area of 9000 acres, with a length north and southerly of about 7 miles, and a width of from 1¼ to 2½ miles. The reports drawn up showed that for a distance of nearly 8 miles in the direction of the company's property, there had not been one failure in any of the claims on the lead. The statistics of mining in the Ballarat district, so far as could be gathered, also showed that the profit obtained was about 40 per cent. above all attendant costs, and the Betry lead seemed to have given even a better result. In his opinion the company's property was sufficiently rich to afford ample profits and dividends for many years to come, and he looked forward with the most sanguine anticipation to the development and successful working of their property.—Mr. Tyndale White said that he and his fellow directors thoroughly endorsed the opinions expressed by Lord Warwick.—A vote of thanks to the Chairman terminated the proceedings.

NEW ZEALAND MINERALS COMPANY (LIMITED).

The statutory meeting of the shareholders in the New Zealand Minerals Company (Limited) was held on Monday, at the Cannon-street Hotel, Lord Castletown presiding.—The Chairman stated that the issue of the company's capital was a great success, and the directors had every confidence that a brilliant future was in store for them. Three of the properties which had been acquired by them were of a wonderfully promising nature, and Mr. Neil Kennedy, the local manager, was of opinion that the profit on the working of them would be very large indeed. The present headquarters of the local staff was at Dunedin, in the Southern Island, but it was proposed to establish a connection at Auckland as well. The directors were working, although with great rapidity, on a very conservative basis, and would only take up those properties which they thought themselves could be proved to be valuable.—A vote of thanks to the Chairman concluded the meeting.

THE NEW WELSH SLATE COMPANY (LIMITED).

The annual general meeting of shareholders in the New Welsh Slate Company (Limited) was held on Wednesday, at Winchester House, E.C.—Mr. S. Z Lloyd, who presided, in moving the adoption of the report and accounts, reminded the shareholders that the state of the slate trade at present was much more prosperous than it had been for many years, and he was glad to say that the prospects of the company were now much better than they had been for a long time. There was no doubt that the quality of the slate was showing a substantial improvement as they got down to the deeper measures. If the board were adequately supported by the shareholders in the matter of capital there was no reason why that company should not enter on a course of prosperity such as it has never seen in the past. The question of paying dividends seemed to be simply a question of output, and he had no doubt that if the contemplated arrangements for raising more capital were successful the quarry would become a regular dividend payer.—Mr. Charles Harvey seconded the motion for the adoption of the report and accounts, which was put and carried unanimously.—Mr. N. F. Robarts, in the course of a statement as to the present position at the mine, said that owing to the fact that the shareholders did not see their way last year to take up the preference shares, the whole of the profits which had been made had been spent upon the quarry, with the result that they were now gradually increasing their make. As to the financial position of the company, they were now in a much better position than ever before, and he had little doubt that the proposed issue of preference shares would be successfully carried out, since a large sum had already been promised. The profits of the quarry had been steadily increasing, and during the past half-year they had made as much profit as had been realised during the whole of the previous year. He had no doubt, moreover, that the present half-year would be the best the company had ever had, and that the results of the current financial year would be exceedingly satisfactory.—The following resolution was also carried:—"That a bonus dividend of one-tenth of the profits of the year to both the working and purchasing shareholders be paid forthwith, and that the arrears of the accumulated preference dividend be paid at the discretion of the directors."

OCEANA TRANSVAAL COAL COMPANY (LIMITED).

The annual general meeting of the shareholders in the Oceana Transvaal Coal Company (Limited) took place on Wednesday, at the Cannon-street Hotel, when Sir Frederick Young, who presided, after referring to the principal items in the balance-sheet, in moving the adoption of the report, stated that the surface plant and underground workings of the mine were being kept in good repair, and a very large quantity of coal could be turned out if facilities existed for disposing of it. The seam which was now being worked was the one which was nearest the surface, being only 54 feet down, and it was 11 feet thick. The quality of the coal was better than that which was obtained from the large collieries in the eastern section of the Witwatersrand. About a year ago considerable progress was being made in extending the business, and a profit was being shown on the fortnightly returns; but the misfortunes which happened at the close of last year had seriously affected them. The principal trouble had been the severe regulations with reference to the movement of cattle, but whenever they had been able to obtain proper transport they had succeeded in obtaining a fair profit, there being a good demand for their coal. He was convinced that they had a very prosperous future whenever the branch line was constructed from the colliery to Heidelberg. They were doing all they could to get this railway built, and those who were taking the company's coal at the present time were prepared to find half the capital required for constructing the branch.—Mr. John L. Matthews seconded the motion, which was carried.

BIG BLOW (LIMITED).

The statutory meeting of shareholders in the Big Blow (Limited) was held on Thursday, at the Cannon-street Hotel.—Captain Bell McTaggart, who presided, explained that the meeting was a statutory meeting, the reconstruction of the company having been carried through successfully. The total number of shares which the shareholders had a right to apply for was 150,000. Of that number 142,900 had already been applied for, and promises had been received to the extent of 1200 more, and there were still some 10 days left, during which the remaining shareholders might come in if they wished. Practically out of the whole 150,000 the holders of 6000 only had not yet responded. Against this he might mention that a large number of shareholders had applied for more shares than they were entitled to, in some cases offering as much as 5s. premium for the shares. The company now had in hand something like £13,000 available in liquid form, and the only thing wanted in regard to the mines was a supply of water. In regard to this latter question a very satisfactory agreement had been entered into with the Coolgardie Waterworks Company, who had undertaken to supply the company with 30,000 gallons a day, and more if they had it, and it was required. There was every reason for shareholders to be satisfied with the quality of the quartz in the mine, and he was confident that it would not be long before they had 20 stamps running on the property.—A vote of thanks to the Chairman terminated the proceedings.

SOME ECONOMIC FEATURES IN CONNECTION WITH MINING ON THE WITWATERSRAND GOLD FIELDS, SOUTH AFRICAN REPUBLIC.*

By EDGAR P. RATHBONE.

(*Continued from page* 1488.)

IT is hardly to be expected that with total "drink" prohibition this last objection could be proved correct. It is drink which demoralises the native even quicker than it does the white man, the kaffir having naturally less moral ballast. Nothing could be worse for the financial condition of the State than the present order of things, as a great portion of this two millions of money, expended upon native labour, is taken out of the country, whereas by a scheme of colonisation, or by the employment entirely of whites, the wages earned would be spent largely within the State, and would thus naturally be a great financial benefit to it. This question of labour has been dwelt upon as it is evident that there can be no subject of greater importance in considering in what manner the costs of mining can be reduced. As has been said before, it is underground that one must look for reduction in expenditure; so far as relates to the surface work, little improvement can be expected, as the very best engineering skill has already been lavished upon it. As the subject, however, is one more of a political than an engineering importance, it need not here be further discussed. It may, however, be finally pointed out that in countries where labour is acknowledged as efficient, but commands a more or less high monetary value as regards wages, as, for instance, in the United States, this condition has been of great benefit to the country, since, owing to its high cost, inventive genius has been set to work to introduce every possible class of labour-saving appliance, whereas in countries where so-called cheap native labour predominates, the tendency is towards its extravagant use, far more natives being employed on any given piece of work than is at all necessary. Finally, one need not hesitate to assert that on the Witwatersrand there are very few mines, if any, who so closely watch their native labour that it is reduced to the most economic limits, the general feeling among the white skilled labour being to see how far they can shirk their own work and get the natives to do it, whilst, in turn, those supervising the white Kaffir "bosses" do not apparently notice this extravagance, as they probably only think of the low rate of wage of the Kaffir as compared to their own, and therefore argue to themselves: "What does it matter if one or two more natives are employed on any piece of work?" From the returns of the various main reef companies it will be found that native labour for mining alone, worked out on the ton crushed, varies from 5s. to as much as 10s., inclusive of food, which cost varies, reckoned by itself, from 1s. to 2s. per ton.

Coal.

The next largest factor of expense in connection with mining is that of fuel, which in this case consists practically entirely of coal. There can be no doubt that, had it not been for the wonderfully close proximity of coal deposits to the gold deposits on the Witwatersrand, it would have been impossible to have worked a great number of the gold mines, since they would not have been rich enough to withstand the high cost of working. Nature has, in fact, so spoiled the Witwatersrand that it has acquired extravagant habits, and nothing but a period of very great financial depression would make those in authority pay the attention to these economic points as the subject merits. A very great economy might easily be effected in this huge coal bill, not by employment of better boilers or a more economic type of engines, for in these respects the Witwatersrand gold mines have few compeers. The coal is of a somewhat inferior nature, containing a high percentage of ash, and, in fact, has a low calorific value; on the other hand, there is an enormous quantity of it, and the deposits themselves are so thick, being generally 15 to 20 feet at least in thickness, that they can be mined very economically.

There are no actual figures to show what the cost of mining is at the various collieries as, so far as can be ascertained, none have been published, but it is certain that 4s. or 5s. a ton for coal mined and brought to the pit-top should be the very outside. As probably the average price of coal delivered at the various gold mines on the Witwatersrand amounts to some 20s. a ton, it is evident that a very large amount is added to its price after it leaves the pit-top; even after allowing for a very good profit of (say) some 2s. 6d. per ton to the colliery proprietors. This large additional cost is entirely due to certain unwise engineering practices which do not moreover appear to benefit anybody in particular. Doubtless the railway company makes a large profit on the transport of coal, but on the other hand the actual cost of this transport to the railway company is enormously increased owing to bad engineering methods. To the English colliery proprietor it would seem an almost incredible folly for a railway company to insist upon the practice of all coal being loaded up by placing it in sacks holding 200 lbs. each, and then loading up these sacks on the coal trucks. By the adoption of this extraordinary system it is necessary for the colliery proprietors to employ a perfect army of natives to put the coal into sacks, tie them up, weigh them, and finally load them on the coal trucks. Then, again, on arriving at the gold mine another army of natives has to be engaged to unload these hundreds of bags of coal, and to make the matter still more costly to the railway company, it objects even to putting in side lines at its own cost up to those mines that are not situated close to the railway, as is frequently the case, so that this unloading has to be carried out on the main passenger and freight line, which naturally greatly impedes the general goods and passenger traffic. There cannot be the least doubt that the railway company could make even a larger profit than it does, even with its present extravagant transport charges, were it to entirely abandon this absurd system. It would, of course, necessitate the purchase of almost entirely new rolling stock, but in a very short period (less than a year) the saving would be so great as to entirely repay for such extra outlay. Under the new system it would be necessary to have bottom discharge trucks loading in bulk almost direct from the mine trucks. It would also be necessary for the company to assist the gold mines in putting in side lines, the cost of construction of which would also very shortly be repaid. The gold mining companies would, of course, on their side make such arrangements of coal bunkers as would admit of the immediate discharge of the coals into them. By such an arrangement not only would the working efficiency of the railway company itself be greatly increased, but it would also effect a direct saving to the gold industry of fully some 5s. on every ton of coal consumed, 2s. 6d. being due to sacking of the coal alone. Unless the railway company shortly sees the error of its ways, some way will shortly be found of largely doing away with its services. It would only require, for instance, for the system which is shortly to be introduced on the Rand of transporting electric energy through a wire direct from the coal mine to the gold mine, for the railway company's services, so far as relates to the carriage of coal, to be almost entirely dispensed with. There is nothing in this world like competition to bring people to their senses.

In order to give the institution some idea of the enormous quantity of coal which is consumed by the industry, a few statistics will now be seen.

The total coal supply for the mining industry and town of Johannesburg amounted in 1895 to 920,000 tons. Of this, 727,680 tons is shown, according to the Government returns, to have been consumed by the gold mines, the balance must, therefore, have principally been consumed by householders and small manufacturers in the town of Johannesburg. Practically the whole of this coal is produced from a district situated some 20 to 30 miles to the east of the town of Johannesburg, the collieries being connected by railway. Some three different coal mines are practically responsible for the whole of this output, and it would be no exaggeration to state that, even assuming a very much increased demand for coal by the industry, the deposits of coal are so extensive as to be capable of supplying all its requirements for the next half century. It is improbable that any of the other coal districts in the Republic will be able to compete with these coal mines for the gold fields' trade, as not only would the cost of carriage prohibit it, but these collieries having got the start, and being already well developed, should be able to work at a very low cost. The question of prevention of waste in small coal, in its undercutting or "holing," is also worthy of more attention; in fact, now that a large electric power station has been erected in the near neighbourhood of the largest of these coal mines, there is no reason why further economy in the working should not be introduced by undercutting the coal with machines operated by electric power. From various returns made by some of the larger companies, who are running over 100 head of stamps, the cost of coal on the ton of rock crushed, including hoisting, pumping, and milling, varies from 1s. 6d. to about 3s., whilst for milling alone with the larger mills the cost of coal on the ton crushed varies from 6d. to about 1s. The total cost of milling in large mills may be said to range from 2s. 6d. to 3s. 6d. per ton, and on rare occasions is as low as 2s. It can, therefore, be seen that, should coal be brought down to half its present price, a considerable saving would be effected in the cost of working.

(*To be continued.*)

* A paper read before the Institution of Mining and Metallurgy

DIRECT METHOD CONSIDERED AS THE FUTURE METALLURGICAL TREATMENT OF COPPER ORES, ARGENTIFEROUS OR OTHERWSE.*

By CHRISTOPHER JAMES.

(*Concluded from page* 1485.)

A REPETITION of such experiments will certainly convince the most unbelieving that no loss of silver need be feared during calcination.

But although calcination does not cause the volatilisation of either copper or silver, provided sulphur be at the same time present, yet certain other metals likely to be present as impurities in matte or regulus are more readily expelled by calcination than by any other treatment. The metals, arsenic and antimony, may be especially mentioned.

In the direct method we have then all the advantage of calcination in the elimination of injurious volatilisable impurities without the losses of valuable metals entailed by either the roasting process or by Bessemerising. Now comes the question, is the direct method quite free from all loss of copper and silver? The answer is, most emphatically, yes. This has been proved exhaustively both by direct experiment and by a careful metal account kept over a 12 months' run.

The experiments consisted in placing condensing arrangements in the doorway of the furnace, and in various places along the culvert, and it was found that while during roasting silver and copper are always found collected on these condensing surfaces, yet when the same method was adopted to collect fume during the progress of the direct method, neither silver nor copper was found to be present.

Again, the results of the metal account showed not only no loss, but *an actual gain* on the assay value of the materials treated; and this was the case, notwithstanding the fact that the account was always debited with the humid assay value of the copper.

In the usual methods of copper smelting, as practised to-day, even in the most advanced establishments, who would expect an excess of copper over the humid assay? Yet this result is now claimed for the direct method.

The following laboratory experiment is suggested to convince metallurgists of the relative values of the two methods. Take white metal, charge a crucible in an ordinary Cornish fire with a portion of this white metal, and allow it to roast into copper, watching meanwhile the fumes arising therefrom, and which can be easily condensed by holding a cold surface for a short time over the crucible. The condensed fume will be found rich in copper, and, if silver be present in the white metal, also rich in silver. Again, take a portion of the white metal, crush to powder, calcine two-thirds, and mix with the remaining one-third. Then run down the mixture in a similar crucible, meanwhile watching as before; no fumes will be seen, and no copper nor silver can be condensed on a cold surface held near. The whole will melt down into a button of metallic copper with the greatest ease, unaccompanied by copper rain, or any other phenomena of the sort.

In changing a works from the old Welsh method to the direct method, the roaster furnaces at once become useless, and the enormous quantities of copper absorbed in their bottoms become returnable.

In starting a works, *de novo*, on the "direct" plan, no roasters will be constructed, effecting a considerable saving in outlay, and another source of economy will be that no capital is sunk by copper locked up in the roaster bottoms, the interest on which capital can be counted as a gain to the direct method; and in cases where argentiferous stuff is dealt with, the value of the roaster bottom is so much the greater, and the saving entailed by the direct method all the more marked.

An important development of the method has recently been brought to perfection, and forms the subject of a patent, granted to the author, June, 1896.

This consists in using any suitable sulphuretted ore in the place of raw white metal in the mixture to be charged into the refinery furnace, thus saving all the costs of bringing the ore so used up to white metal. This variation is found to be perfectly successful, and if the ore be such an one as the Cape ore used at the Briton Ferry Works, then two-fifths of the refinery charge may be of such ore, thus saving all the costs of bringing this proportion of ore up to the white metal stage. In this case the amount of refinery slag is slightly increased, but inasmuch as this slag has a valuable use in raising the pitch of metal during smelting, it is really no detriment at all.

In the case of leady matter, such, for example, as are made in a silver lead works dealing with complex ores, their treatment, as is well known, entails an extra loss of silver. In the direct method, on the contrary, if an equivalent of silica be added to the refinery mixture, no silver is lost, and the lead itself is wholly recoverable from the slag.

* A paper read before the Institution of Mining and Metallurgy.

A perfect silicate of lead is quickly formed under these circumstances, and the silver is all delivered up to the metallic copper. This silicate of lead slag, treated in the usual lead works blast furnace, becomes entirely reduced, and so not even the lead is lost.

The quantity of material dealt with in one operation will depend upon the size of the furnace used. The tendency is now to enlarge the old Welsh reverberatory furnace so as to deal with heavier charges. Thus Mr. Richard Pearce, of Argo, U.S.A., has put up a furnace which melts 50 tons of material every 24 hours against the 9 or 10 tons treated in furnaces of the usual size during the same time; and Mr. T. D. Nicholls, of the Briton Ferry Works, fills into a refinery furnace 20 tons of white metal (calcined and raw in admixture) every 24 hours.

Concluding Remarks.

Amongst the advantages to be derived from the use of the "direct" progress, the avoidance of the usual loss of metals in the roaster furnace is to noticed primarily. This is of immense importance where argentiferous copper materials are smelted, and the following investigation will possibly indicate how the loss comes about:—

During the roasting of argentiferous white metal, deposits of vapourised material can be collected on cold surfaces placed in the doorway, as before said; now, if samples of this deposit be collected at successive intervals during the process, and each sample assayed for silver and copper, it will be found that the proportion of silver to copper contained in this deposit will rapidly increase as the progress of the process advances.† This shows that during the early stages of the roasting process little silver escapes, but that as the sulphur becomes eliminated from the charge the proneness to silver loss augments. This is to be explained on the ground of the relative affinities of silver and copper for sulphur. That in the elimination of sulphur from the double sulphide, the copper first parts company with the sulphur, the silver clinging to the sulphur to the very last moment; and because silver and sulphur remain in combination during the prolonged period of stewing to which the charge is necessarily subjected in roasting, while the copper is all along being reduced to the metallic state, the escaping vapours become gradually richer in silver and poorer in copper, and the result is that more silver is lost towards the end of the process than in the beginning.

In the "direct" process, however, no such prolonged reaction takes place. The necessary oxygen to effect the reduction of the total sulphides, both of copper and silver, is present in the charge, and the copper and silver together are reduced to the metallic state the moment the reaction is set up. Thus, because sulphide of silver is not allowed to exist as such for any length of time, little or no silver is lost in the "direct" process.

In the smelting of ores containing copper and other metals, the smelter is largely indebted to sulphur, for it constitutes a valuable collecting agent, combining with the metals to form a regulus, and so releasing them from the earthy ingredients of the ore which form the slag. Throughout the concentration treatments, too, it is the sulphur all along which, clinging to the copper, allows the iron and other elements to be separated as slag. Here, again, we see how a knowledge of affinities will help the metallurgist.

After the sulphur has served its useful office of collector, the next object is to separate the sulphur so as to leave the metal in the metallic form, and we must now use an agent with a still superior affinity—viz., oxygen.

The sooner this oxygen can be brought into contact with the sulphur to be separated the less will be the time occupied in the process. This sounds like a self-evident proposition, but it is made, however, to emphasise the importance to be attached to the time occupied in the process.

The importance follows from the fact that during the removal of the sulphur by oxidation (but only while sulphides still exist) compounds are brought about which at a certain temperature (the temperature of fusion of the sulphide) are volatilisable, and so metals can be lost.

The main advantage of the "direct" method then consists in this: The time occupied in the final elimination of sulphur at high temperatures is so short that votalisation is reduced to a minimum. The moment the sulphide and oxide in the mixture reached the temperature of votalisation of any compound that can exist there the reaction occurs, the metals are at once reduced and all danger is at an end.

In the roaster and in the Bessemer converter the material remains at volatilisable temperatures for a considerable time before the total reduction to the metallic state can occur, and it is during this period that the losses take place.

An installation, where roasting is now practised, in order to adopt this new process would simply be required to do away with the roaster furnaces, and if the output remains the same, to reduce the number of metal furnaces; but in an installation where Bessemerising plant is now in use, such as the Anaconda Works in Montana, the change required to be made would be simply this: arrest the Bessemerisation as soon as the molten regulus has reached the white metal pitch, say at 75 per cent. of copper, for up to that pitch no loss of valuable metals takes place, crush this white metal, calcine a portion, mix with raw, and charge the mixture into a refinery furnace to make refined copper, instead of, as at present, continuing the blowing upon the metal in the converter until it comes to copper, and charging this copper into the refinery furnace to make refined copper.

Should it be desired, however, to start a new plant, say for treating such ores as the Anaconda ore, on the best possible lines, then the following arrangement is to be recommended as the best:—

Calcine and melt the bulk of the ore in reverberatory or blast furnaces making coarse metal. Reserve sufficient of the ore so calcined for cleaning all the rich slags of the works, and use this reserved portion with the slags in a water jacketed cupola, again producing coarse metal.

The coarse metal derived from both these sources is now crushed and calcined in automatic calciners, and the calcined product melted in reverberatory furnaces to make white metal, and the white metal is then treated by the "direct" method, as heretofore described. We then have a model works, embracing all the best improvements, and the results of the best experience up to date.

* This is a method of investigation which I owe to my friend, Mr. W. Terrill.—C. J.

† These affinities of metals for metalloids are very important to be understood in metallurgy, and the author proposes to prepare a small manual shortly, as a guide to practical metallurgists on the affinities of the important metals for sulphur, oxygen, &c.

HILL END CONSOLS (LIMITED).

The statutory meeting of the shareholders in the Hill End Consols (Limited) was held on Thursday, at the offices, 54, Old Broadstreet, E.C., when Mr. T. Harrison Davies, who presided, stated that Mr. J. M. Fearby, the mine manager, had expressed himself as highly satisfied with the prospects of the property. In his report for October, he wrote:—"I must say that taking into consideration what I have previously said, and the position of this block to the Pride of the Arrow (which is a splendid property, and you have their lines of lodes running through your lease), I have no hesitation in saying that with a good capital and judicious management, this property will prove to be a really first-class mining venture, and it only remains for the proper developing of it to prove it." In a cablegram, dated September 25, Mr. Fearby stated:—"Struck formation and reefs 2 chains to the west of old shaft, carrying gold in cosean."—A vote of thanks to the Chairman concluded the meeting.

At a meeting of the directors of the CAPE COPPER COMPANY (LIMITED) it was resolved that a dividend of 3s. per share be declared on the cumulative preference and ordinary shares, free of income-tax, payable on January 1, 1897, to the shareholders on the books of the company on December 4, and that the transfer books be closed during the said December 4.

LATEST FROM THE MINES.

CABLEGRAMS AND TELEGRAMS.

BARNATO CONSOLIDATED MINES.—The Johannesburg Consolidated Investment Company (Limited) announce receipt of the following cable from the above company:—"Chimes Mines (Limited) passed through reef at a depth of 1750 feet; the width of the reef is 3 feet, and assays 16 dwts. to the ton. Mr. Hatch is of opinion that this is the main reef." The property (Chimes Mines, Limited) consists of 510 claims adjoining Klondyke, and has a nominal capital of £375,000, of which £225,000 is issued to and held by the Barnato Consolidated Mines (Limited).

BRILLIANT GOLD.—A cablegram has been received at the London office, Blomfield House, London Wall, E.C., announcing the declaration of a dividend of 4d. per share payable on December 1. This dividend will be paid in London on all shares on the London register.—A further telegram states:—"2634 tons of stone crushed yielded 3000 ounces of gold."

BROKEN HILL PROPRIETARY.—Copy of cable dated Melbourne, November 24:—"Shares £2 8s., buyers."

BROKEN HILL JUNCTION NORTH.—A cable advice from Melbourne that a fourth-monthly dividend of 6d. per share has been declared, and will be paid on the 9th proximo.

BROKEN HILL PROPRIETARY.—Copy of cable dated Melbourne, November 27, received same date, 10 a.m.:—"Shares £2 11s., buyers."

BRILLIANT BLOCK.—The London office has this day received the following cablegram from the head office in Charters Towers:—"Have crushed during the month 1091 tons of quartz for 403 ounces of gold." The approximate value of this return is £1400.

CHIAPAS.—Copy of cable received from the mine, dated November 11 (delayed in transmission):—"During October the concentrating mill ran 28 days, crushing 1700 tons of ore, yielding 83 tons of concentrates. The stamp mill ran 27 days, crushing 754 tons of tailings, yielding 150 ounces gold."

CHAFFERS.—Cablegram from Mr. Mactear, the company's consulting engineer, Perth, November 24:—"Chaffers sent some samples of ore. Have been through everything very carefully. I visited other mines in the locality, to help me to form an opinion. The situation of the mines is good. The mine is situated in a district having a reputation for good properties. A well-defined lode; the lode runs north-south. The lode does not carry gold in paying quantities. There are three shafts on the vein, varying in depth from 60 feet to 100 feet. Shafts No. 4, quartz vein.—Telluride. Reported boulder main reef. If the report is confirmed, may be of great value to Chaffers. Have commenced erecting machinery. Full report is sent by mail."

CRESCENT.—The London office has received the following cablegram, dated November 26, from Mr. T. G. Davey, giving the result of the crushing for the past month:—"Crescent 600 tons 104 ounces. There is a great improvement in Victory."

EUDINA.—The following cable information has been received from the mine manager:—"The clean up was made November 16, after crushing 130 tons; yield 145 ounces."

GRAVEL GOLD MINES OF COLOMBIA.—The London office have received the following cablegram from their superintendent relating to run No. 18:—"We have cleaned up after a run of 34 days, during which time we have washed 660 hours. The gross returns are £450. The net profit is £250."

GREAT BOULDER PROPRIETARY.—Crushing returns for the fortnight ending November 23:—20 stamps crushed 704 tons of ore, yielding 2126 ounces of gold.

GREAT BUNINYONG ESTATE.—Sinking resumed, made 4 feet since Thursday, full depth 300 feet, country at foot hard sandstone. At quartz shaft sinking steadily progressing with two shifts. Advanced 7 feet for week. Country at foot slate and sandstone.

GOLDEN ARROW.—A cablegram from the company's mining manager reports:—"Have struck a vein in crosscut at 200 feet level. Crosscut is in 24 feet, and carries good gold. The vein is fully 3 feet in width, and not yet through."

GREAT TALUNGA.—The following cable has been received from the company's manager, Mr. J. C. J. Assiter Field:—"It will be impossible to start crushing before December 15. Cannot be ready before. Have struck reef at a depth of 200 feet, 4 feet in width. We are not yet through. The lode is looking promising."

HANNAN'S REWARD.—Copy of a cable received from manager:—"Estimated cost of plant delivered on the mine is £2500. Erection £1500. Met with vein at the intermediate level, 2 inches in width, very rich in gold."

HANNAN'S NAPIER.—Cable November 24:—"Shaft has reached a depth of 140 feet. The rock is softer.—Gibson."

HARBINGER (Gippsland).—The following cablegram has been received from Melbourne, dated November 23:—"Cutting into good ore. Change in the management is not yet completed. Will have a good effect. Letter sent explaining."

HARQUAHALA.—The following information has been received by cable from Mr. Raymond (Kalgoorlie, W.A.):—"Have struck the lode prospecting shaft at the south end of lease No. 1008. Vein runs north and south, dipping east. Average width of lode 10 feet, low-grade ore. It contains stringers of quartz, 15 dwts. per ton."

KING OF THE WEST.—The following cable has just been received from Mr. H. F. G. Weber, Chairman of the company, who is now at the mine:—"The mine looks exceedingly well. A large quantity of payable stone. Ore reserves have been largely increased by recent developments. Manager, who is a competent engineer, has given as his opinion that the mine will develop into a good steady dividend payer. I advise the erection of machinery be deferred pending. A railway is projected to be completed within five months, which will come within 2 miles of the property. This will enable us to push the sinking of the shaft with vigour. I hope to arrange for a trial crushing of 100 tons of ore in the immediate neighbourhood.—Weber."

MENZIES "CRUSOE."—Cable information to the following effect has been received from Mr. Jowett, the manager at the mines:—"Trial crushing 5 tons diorite quartz from crosscut to the west G shaft yielded 37 ounces smelted gold. Tailings assays average 1 ounce gold per ton. Four tons fine diorite quartz yielded 5 ounces smelted gold. Lode not looking quite so well."

MOUNT MAGNET.—Mine developments. At the 60 feet level south of this shaft we have a splendid lode 40 feet in, fully 2 feet wide, which I estimate will yield 2 ounces per ton.

MOUNT HEPBURN.—Cable received from E. W. Spain:—"Assays average north and south 2 ounces per ton."

MYSORE.—The London office has received the following cablegram from the superintendent at the mines:—"Rain has now commenced; grain rates falling."

MONASTERY DIAMOND.—Cable received states:—"123 loads yielded 24 carats."

NEW MODDERFONTEIN.—A cablegram has been received from the head office, reading as follows, namely:—"Mills temporary. Stopped for want of water."

NEW QUEEN.—Cablegram dated Charters Towers, November 21, giving result of crushing for past fortnight:—"No. 5 formation (1270 feet), 90 tons, yielding 67 ounces gold, new reef 40 tons, yielding 22 ounces gold. Have drawn on you for £400. Shall recommence sinking November 23. Mill stopped for boiler to be cleaned and repaired."

NORTH-WEST AUSTRALIAN GOLD FIELDS.—A cablegram from the manager states:—"Crushing of 141 tons just completed has given return of 211 ounces of gold, and tailings are estimated to yield a further 12 dwts. There is plenty of ore of same quality."

OURO PRETO.—This company has received a cablegram, giving the October returns as follows:—"Passagem Mine. 4127 tons produced 1450 ounces.—Raposos Mine. 10 tons produced 2 ounces."

PAHANG CORPORATION.—Cablegram giving the returns for the month of October:—"From Jeram Lumpong mill. In 29 days of 24 hours each, 1220 tons of stone were crushed, producing 710 cwts. (35½ tons) of black tin. 20 head of stamps running. Working cost, $10,500.—From Jeram Batang mill. In 26 days of 24 hours each 1010 tons of stone were crushed, producing 720 cwts. (36 tons) of black tin. 20 head of stamps running. Working costs, $7500."

PRINCESS ROYAL (Cue).—The directors have received the following cable from the manager—viz.:—"Clean up from 100 tons gave 206 ounces."

QUEEN CROSS REEF.—Messrs. A. Durant and Co., the London agents, have received a cablegram from Queen Cross Reef Gold Mining Company's head office, Charters Towers, dated November 25, as follows:—"Have cleaned up after crushing 671 tons for 1552 ounces of gold, approximate value £4900. Dividend declared of 6d. per share, payable December 1. Cash in hand, after payment of this dividend, £1600."

ST. JOHN DEL REY.—The following telegram has been received from Mr. Chalmers:—"Produce 10 days, 2nd division, 10,750 oitavas, equal to 1239 ounces troy, value £4166; yield per ton 4·7 oitavas (·54 ounce troy)."

VAN RYN.—The following cable has been received up to last Thursday (November 19):—"Recovered 1945 ounces bullion, either clean up or cyanide process, probable output for the month 4300; local storm filled upper dam sufficient to supply mill for four months; machinery running most satisfactorily."

VICTORIA (Charters Towers).—The following cablegram has been received at the London office:—"300 tons crushed yielded 551 ounces of gold."

WASSAU (Gold Coast).—A cablegram has been received advising a remittance of 373 ounces bullion for the first half of this month.

WELD-HERCULES.—The following cablegram has been received from the mine manager, dated Cue, November 25:—"Machinery. The erection of this will shortly be completed."

WESTERN AUSTRALIAN DEVELOPMENT CORPORATION.—Dorothy. The manager of the adjoining lease on the line of reef has cabled:—"No. 3 shaft, 73 feet, struck splendid gold."

WHITE FEATHER REWARD.—Cable information was received a few days ago as follows:—"Have commenced crushing with 15 stamps, running smoothly. Will start the other 5 stamps in the course of a few days." The latest report by mail states that:—"At the 200 feet south level the best of the gold is underfoot along the floor of the level, which promises very well for developments at the 300 feet. The main shaft is now sunk 260 feet." Cablegram received November 25 states:—"Have commenced crushing with 20 stamps. Everything working smoothly. Have sufficient water to run 20 stamps full time."

WESTERN AUSTRALIAN DEVELOPMENT CORPORATION.—The following cablegram has been received from our consulting engineer, Mr. Frank J. Nicolas:—"Orotava. Formation looking well."

WOODSTOCK GOLD (New Zealand).—Copy of cablegram received November 27:—"Struck shoot of ore in No. 2 level Maria lode. Samples of ore assayed £12, identical with rich shoot No. 3 level."

STATE OF THE SKILLED LABOUR MARKET.

THE following is an abstract of a memorandum which has been prepared by the Labour Department of the Board of Trade for the *Board of Trade Journal*, and also (with additions) for the *Labour Gazette*:—During October the tendency in the labour market has been generally in an upward direction. On the whole, the trade union returns show a diminished percentage of unemployed, though the figures have not yet been affected by the recent increase of activity in the shipbuilding trade. Employment has been active in the coal, iron, and steel industries, but shows a decline in the cotton trade. The labour market has been comparatively little disturbed by important disputes, and such changes of wages as have been recorded have been mostly advances. In the 111 trade unions, with an aggregate membership of 437,371, making returns 14,582 (or 3·3 per cent.) are reported as unemployed at the end of October, compared with 3·6 per cent. in September, and with 4·9 per cent. in the 88 unions, with a membership of 395,991, from which returns were received for October, 1895.

Employment in Various Industries. Coal Mining.—Employment in this industry in October was good generally. The number of days worked per week was greater than in the previous month, and nearly the same as in 1895 at the same period of the year. At pits employing 408,997 persons, an average of 5·2 days per week was worked in October, compared with 4·89 in September, and 5·03 in October, 1895. Unemployed miners in trade unions in Northumberland and Durham amounted to 1·6 per cent. of the membership at the end of October, as compared with 1·2 per cent. at the end of September, and 1·9 per cent. at the end of October, 1895.—Iron Mining. Employment in this industry continued good during October. At 132 mines and openworks making returns the 16,519 persons employed worked an average of 5·73 days per week, as compared with 5·78 days in September, and 5·59 days in October, 1895. The number employed was higher by about 4½ per cent. than a year ago. In the pig iron industry employment was about the same as in September, and much better than a year ago. At the end of October the ironmasters making returns had 345 furnaces in blast, employing 22,325 workpeople, or 18 more furnaces and 1494 more workpeople than a year ago, and one furnace less and 85 workpeople more than at the end of September. Employment at steelworks at the end of October was about the same as at the end of the previous month, and considerably better than a year ago. At 127 works making returns, 36,718 persons were employed, as compared with 36,717 persons at the end of September, and 30,878 persons at the end of October, 1895. Employment at puddling furnaces and rolling mills has also remained unchanged, the number employed at 89 works being 17,755 at the end of October, compared with 17,781 at the end of September. The number a year ago was 17,576. In the tinplate trade employment recovered somewhat during October, and, at the end of the month, of the 88 works covered by the returns received, 52 were given full employment, compared with 45 a month before. Altogether 322 mills were reported as working at the end of October, as compared with 306 at the end of September. This applies to the state of things before the recent stoppages. Employment in the engineering and kindred trades shows further improvement, the percentage of unemployed union members having fallen from 2·8 at the end of September to 2·3 at the end of October. The percentage for October, 1895, was 5·7.

Trade Disputes.—The number of fresh disputes occurring in October was 55, involving about 11,000 workpeople, as compared with 51, involving about 9000 workpeople, in September, and 77, involving about 18,000 workpeople, in October, 1895. Fifteen disputes took place in the engineering and shipbuilding trades, 8 each in the mining and quarrying trades, and 5 in the miscellaneous metal trades. Of the 55 new and old disputes, involving about 15,000 workpeople, of which the settlement has been reported, 21, involving about 4700 persons, terminated in favour of the workpeople; 17, involving about 3100, in favour of the employers; and 10, involving about 1100, in a compromise. The results of the remaining 7 disputes, involving about 6100 persons, cannot at present be definitely stated.—Changes in Rates of Wages: The changes in rates of wages reported during October affected about 12,000 workpeople, of whom 11,800 received an estimated average advance of 1s. 7d. per head per week, and 167 sustained decreases. The increases include 9000 workpeople engaged in the engineering and shipbuilding industries. Changes affecting 10,800 workpeople were arranged, without any strike, after negotiation or by mutual arrangement. Other changes, affecting about 900 workpeople, were preceded or accompanied by strikes; and one change, involving 300 workmen, was determined under a wages board.

H. H. VIVIAN AND CO.

The report of the directors of H. H. Vivian and Co. (Limited) for the year ending June 30, to be presented at the meeting to be held in London on December 4, states that during the year the previous continued fall in prices was arrested, but that while the price of cobalt was considerably enhanced, and the price of nickel also slightly raised in the latter part of the year, the full benefit of such enhancement has not been felt in consequence of standing contracts at old prices, and the late periods of the year at which the improvement took place; such improvement, however, rendered it unnecessary to make further reductions in the prices of stocks, as were previously considered necessary. At Birmingham trade has also improved, and on the company's works there a profit was made of £1014, while the Hafod Isha Works, Murray and Evjo Mines, taken together, show a loss of £3551, there being a net profit on the practical working of the whole concern of £460. Taking into account the interest charges and London expenses, the balance-sheet shows a loss of £6946. The improvement has been maintained to the present time, and the directors believe it will be still further enhanced as old contracts are completed, and when increasing demands and better prices are fully realised. Some necessary legal formalities delayed the carrying out of the late Lord Swansea's intention to cancel "B" shares of a nominal value of £45,000, in order to sweep away the loss shown at July 31, 1894, but that intention has been recently practically carried into effect by his sons, who transferred a sufficient number of such shares to Sir Thomas Lea and Mr. W. G. Loyd, as nominees of the company. The sanction of the Court is now only required to complete this transaction in connection with some general scheme of reconstruction, which the directors hope soon to be in a position to deal with. The works at Swansea and Birmingham have been maintained in the usual state of efficiency, and negotiations are still pending for the sale of the Murray Mine.

— The PAHANG CORPORATION (LIMITED) has declared the 10 per cent. cumulative dividend accrued to June 30 on the preference shares, payable December 3 next.

— The Secretary to the ISLE OF MAN MINING COMPANY (LIMITED) informs us that he has sold about 100 tons of Foxdale lead ore.

MOODIES FORTUNA GOLD MINING COMPANY (LIMITED).

A meeting of the English shareholders in the above company was held on Tuesday afternoon, November 17, at the offices of the company, 23, College Hill, E.C., for the purpose of meeting three of the directors of the company who are now in London, including Mr. J. M. Buckland, the Chairman of the company.—Mr. J. Leach Barrett presided.

SAM'S WEALTH OF NATIONS GOLD AND EXPLORATION COMPANY (LIMITED).

An extraordinary general meeting of the shareholders in Sam's Wealth of Nations Gold and Exploration Company (Limited) was held on Thursday, at the Cannon-street Hotel, Mr. W. H. Talbot presiding, for the purpose of considering resolutions providing for the reconstruction.—The Chairman explained that the reason why additional capital was required was in order to more fully develop the properties the corporation had in hand. During the 20 months they had been in existence a good deal of work had been done, including the successful flotation of one property. Four others were at present being developed, and it was believed that they would be the means of making the shares in the company very valuable. He concluded by moving the usual reconstruction resolutions.—Dr. McDonald seconded the resolutions, which, after a long discussion, were put and carried *nem. con.*—The meeting concluded with a vote of thanks to the Chairman.

THE KENT COAL FIELD.

The discovery of an unlimited supply of coal in Kent will rank as one of the notable events of the Victorian Era. Geologists have for years predicted to a sceptical generation that extensive carboniferous deposits would be found contiguous to Dover. The late Mr. Prestwich estimated that the total local coal-bearing district ranges 150 miles in length by from 2 to 8 miles in width. But, for some time, he and his scientific colleagues prophesied in vain. At length, the attention of a group of powerful capitalists was aroused, and an examination of the data submitted by experts resulted in their promptly subscribing £200,000 to bore for coal, and develop the seams. They lost no time in acquiring 575 acres of freehold land containing the mineral. They struck coal with an artesian boring machine at 1113 feet, and came across a 4 feet seam of genuine bituminous coal at a depth of 2117 feet. The samples under test have been found to compare favourably in carbon and heating power with the coal of Wales, Newcastle, Derby, and Lancashire. Not only is the supply unlimited, but the direction of the seams is, fortunately, horizontal, and the bore hole has struck the centre of the basin. One shaft, 17 feet wide, is already down 360 feet, and a second shaft, 24 feet wide, is sunk 80 feet, relays of men working night and day. It is expected that the first shaft will overtake the 4 feet seam before the close of next summer. A large amount of pumping and hauling machinery, engines, boilers, and winding gear is in rapid course of erection. The coal, it is estimated, can be delivered at the pit's mouth at 6s. 6d. per ton. At so low a figure the Northern collieries cannot compete in delivering coal to Southern towns and London.—ADVT.

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COMPANY ANNOUNCEMENTS.

THE CAPE COPPER COMPANY (LIMITED).
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25th November, 1896.

NOTICE IS HEREBY GIVEN, that at a MEETING of the DIRECTORS of this Company,
IT WAS RESOLVED—
"That a dividend of 3s. per share be declared on the Cumulative Preference and Ordinary Shares (free of income tax), payable on the 1st day of January, 1897, to the Shareholders on the Books of the Company on the 4th of December, 1896, and that the Transfer Books be closed during the said 4th of December, 1896."
Preference Coupons No. 10 and Ordinary Coupons No. 22 will be paid at the above rate (free of income tax) on presentation at the Company's office.
By Order of the Board,
J. C. LEAVER, Secretary.

THE PESTARENA UNITED GOLD MINING COMPANY (LIMITED).
10 PER CENT. MORTGAGE DEBENTURES.
NOTICE IS HEREBY GIVEN, that the Coupon Number 33, of the 10 per Cent. MORTGAGE DEBENTURES of this COMPANY, due on the 1st December, 1896, will be paid on presentation at the Office on or after that date.
By Order of the Board,
RICHARD GARLAND, Secretary.
Office: 7, Queen Street Place, London, E.C.
26th November, 1896.

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NOTICE IS HEREBY GIVEN, that the SPECIAL RESOLUTION submitted to the Shareholders at the EXTRAORDINARY GENERAL MEETING, held at the Cannon Street Hotel, London, on the 11th day of May, 1896, and duly confirmed at the EXTRAORDINARY GENERAL MEETING, held at the Offices of the Company, on the 26th day of May, 1896, was sanctioned by the Court of Chancery on the 21st day of November, 1896. Under the said SPECIAL RESOLUTION, every Member of the Company, or holder of Share Warrants to Bearer, is entitled to claim as returned Capital a cash payment of One Pound per share in respect of every share in the Company held by him or her.
Claims for the repayment of the said capital may be presented at the address at foot on and after Friday, the 4th December, 1896, and must be listed on the Official Forms (Registered Shares on Form E, and Share Warrants to Bearer on Form F), which can now be obtained at the Company's Office. Claims must be presented on a Monday, Wednesday, or Friday, between 11 a.m. and 2 p.m., and must be accompanied by the Share Certificates or the Share Warrants, for the purpose of examination and endorsement. A receipt signed by the Secretary, or Assistant Secretary, will be given in exchange for Share Warrants deposited with Claims.
The cash payment of One Pound per Share will be made by the Company seven days after the respective claims are received, and found to be in order.
As a matter of office convenience, Claims may be presented after to-day, but no payment will be made until on and after Friday, the 11th December, 1896, and no Claims will be received or payments made between Wednesday, the 23rd December, 1896, and Monday, the 4th January, 1897.
By Order,
JOHN G. BARRY, F.C.A., Secretary.
87, Cannon Street,
London, E.C.
Dated this 23rd day of November, 1896.

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LONDON: NOVEMBER 28, 1896.

COAL MINING BY MACHINERY.

IT is a curious fact that whilst the greatest ingenuity has been applied, and applied successfully, to most of the operations connected with coal mining, that of the actual mining itself, the act of coal getting, has made but little progress in this respect. The coal miners' especial tool—the pick—still retains to-day very much the same shape that it had centuries ago, and is probably but little removed from the form that would have been adopted by primitive man as a hewing implement. True it is that there have been improvements in detail, and more especially in the material of which the pick is made; but, nevertheless, the simple pick remains as it has been for ages past—the collier's tool *par excellence*.

For the benefit of those of our readers who may not be intimately acquainted with the methods of coal getting, we must give a brief outline of the operation. It may be said to consist of three stages—firstly, "kirving," "holing," or "undercutting"; secondly, "nicking" or "shearing"; and thirdly, breaking down the coal. By kirving, is meant hewing out a narrow horizontal slit the full width of the working places to be operated on, and from 2 feet 6 inches to 3 feet 6 inches deep. This operation has almost invariably to be performed, the usual place for it being at the bottom of the seam, and very generally in the coal itself. If the coal seam rests upon a narrow soft bed of underclay the kirving may take place in

that, or should there be in the seam a soft shaly parting in a convenient position, advantage may be taken of it for kirving. As a very general rule, however, the kirving takes place in the coal itself, and close to the floor of the seam. As a rule this kirving will be from 1 foot to 1 foot 6 inches deep at the face of the coal, running out to an inch or two at the far side of the excavation; its average thickness may, therefore, be taken as about 8 or 9 inches. It must be understood that all the coal thus cut is wasted, and rendered worthless or nearly so, because it is chipped into fine dust, and is usually mixed with shale or fire clay from the floor of the seam, so that it scarcely pays in the present state of affairs for tramming to the shaft and hoisting up to bank. It may, indeed, be looked upon as a complete loss. It should be mentioned that the coal seam thus undercut has to be supported by props.

Nicking is by no means always employed, and is, generally speaking, confined to narrow workings. It consists in making a vertical cut, which differs from that just described only in running across the seam vertically, instead of horizontally along it. Nicking cuts about the same absolute amount of coal to waste as kirving, for the same length of cut, but a very much smaller proportion of the total quantity of the coal got by it is thus wasted, because each yard of nicking may get (say) five cubic yards of coal, whilst each yard of kirving does not on average get over one cubic yard, besides which the former can frequently be dispensed with altogether. The last operation of breaking down the coal is performed either by simply removing the props, when the coal falls by its own weight, or by barring or wedging it down or by blasting. This last operation is the same in whatever way the operations of kirving, and of nicking (if necessary), are performed.

For over a century attempts have been made to replace the difficult, toilsome, and wasteful process of hewing, and especially of kirving by hand, by cutting by machinery, but even to-day no distinct success has as yet been achieved. There are no doubt a good many machines in the market that will undercut coal and do it well, but none has yet been adopted to even a moderately large extent. It would naturally be expected that a country like our own, where many of the thick seams are getting rapidly exhausted, and where thinner seams have in consequence to be attacked, where the coal seams have not, upon the whole, been greatly distorted or shattered by upheavals and dislocations, and where finally the wages of the coal miner are very high, would have taken the lead in the adoption of machine coal cutting. This, however, is far from being the case, the quantity of coal got by machinery in Great Britain being a practically insignificant quantity. On the other hand, we learn from a very interesting report in "The Mineral Industry" that in the State of Illinois, which produced in 1895, 17,736,000 short tons of coal, there were at the close of that year 320 machines in use, which had during that year produced 3,531,000 tons of coal or about 20 per cent. of the entire output. It is there found that a mine worked by machines can turn out as much coal as a mine worked by hand cutting, with only 60 per cent. of the number of men required in the latter, and at 10 cents (5d.) per ton less cost. We learn from the same useful work that the cost of coal cut by machine in the State of Iowa is also about 10 cents to 15 cents per ton less than when cut by hand; in narrow work the machines advance 25 feet per day, as against 10 feet by hand with a total cost of $1·80, as against $2·80 per yard. The condition of affairs in Ohio is very like what it is in Illinois, over 20 per cent. of the coal production of that State being machine cut.

It is foreign to our present purpose to enter into anything like a description of the various forms of coal cutting machines now on the market. Broadly, all coal cutters may be classified under three heads:—

I. Machines that swing a pick of some kind and give a blow more or less like that given by the human machine.

II. Machines that work by percussion in a straight line; these resemble an ordinary rock drill, the drill bit being, however, chisel shaped, so as to chip out the coal.

III. Machines with revolving cutters. Three different forms at least, of these have been employed; in one, a bar armed with teeth is made to revolve, and at the same time to advance either parallel to the face or at right angles to it; in another, an endless chain provided with teeth is revolved like a very coarse bandsaw, whilst in the third type the revolving portion is a disc into the edge of which teeth are inserted, so that the machine resembles a heavy circular saw.

Machines of the first type were amongst the earliest made, but have never come into favour at all, and may, indeed, be fairly said never to have passed beyond the experimental stage; modern inventiveness seems to have entirely neglected this type.

Machines of the second type are greatly in favour in America, nearly all the machines in Illinois being of this pattern, and being for the most part driven there by compressed air. The advantage of this form of machine is that it is comparatively easily handled, moved about from place to place as required, can work in narrow places, and can be used for nicking when needed. These machines generally kirve to a depth of 4 feet, but, on the other hand, the direction of their cut is obliquely downwards from the face, so that a good deal of coal may be, and often is, cut to waste by them, unless there happens to be a convenient bed of clay or shale for the machine to kirve in. In this respect this type of machine presents but little advantage over hand cutting, except that the machine can kirve in a bed of shale that would be too hard for kirving by hand. Nearly all these machines are driven by compressed air, and this form of transmission, though wasteful of power, has the advantage of ventilating the face just where ventilation is most required, and of being free from danger.

The machines of the third type, generally speaking, require soft material—coal or fire clay—for kirving in, and cannot, as a rule, be used for nicking. On the other hand, they are excellently adapted for long wall working, a method that appears to be steadily growing in general favour. The great advantage of these machines, as a class, is that they will kirve as deep as it is possible to sprag with safety, say 4 feet 6 inches to 5 feet, and that the vertical depth of the cut is small, generally from 3 to 6 inches. When kirving has to be performed in coal, these machines may be said to save one-half the wasted coal, as compared with hand kirving. This may be looked upon as a small matter, which it no doubt is in thick seams. But in thin seams it becomes a matter of the greatest importance, and may even determine the possibility or impossibility of working a seam. There are many seams worked in this country less than 2 feet thick; now in such a seam hand kirving in the coal would waste about 35 per cent. of it, whilst machine kirving would only cut 16 per cent. to waste—a very important difference in favour of the latter. These machines may be driven by any kind of motor, and have actually been worked by steam, compressed air, and electricity, the two last-named being obviously the most suitable. Electricity is very convenient of application and is economical of power, but the risk of sparking at the commutator is evidently too serious to be overlooked in the case of a machine working so close to the face. Several attempts have already been made with more or less success to overcome this objection, and much is hoped from the triphase system. There is little doubt that the next decade must witness a considerable expansion in the use of mechanical coal cutters, and it is probable that electricity will be largely looked to as a motive power. It cannot be said that any coal cutter yet introduced is entirely satisfactory, but the problems to be solved in connection with such machinery are much more intricate than they appear at first sight to those who have had no practical experience in coal mining. We have no doubt that a suitable machine will be devised in time, the difficulties, though great, not being insuperable, and it is quite likely that its introduction would hasten the adjustment of many of the difficulties under which the coal trade of the country is at present labouring.

THE KAFFIR DEPRESSION.

WHILE it is impossible, when all considerations are taken into account, to feel much surprise at the present depression which rules in the South African market, it is certain that any rigorous process of analysis will show that no very substantial causes can be assigned for the prevailing dulness. It is true that the flatness of the past month or two has been of the most pronounced description, as also that the nervousness and liability to panic, not peculiar at all to London, but observable in a greater or less degree throughout all the mining exchanges of Europe, have had the effect of causing investors to look seriously into the character and prospects of the industry in which they are interested. The influences, however, which have combined to overcloud the industrial outlook in South Africa are, it is evident, not of a character likely to be permanent, and though it would, perhaps, be too sanguine to look for a spirited revival in the immediate future, a beneficial clearance of the atmosphere may not be much longer delayed. Much of the flatness recently noticeable has been due to nothing more than a succession of *canards*, as they are commonly termed, conceived with an audacity which would be admirable if it did not work so much harm, and circulated with the avowed intention of depressing prices. This latter object has been achieved in as full a measure as could possibly have been hoped, with the result that Kaffirs have latterly been quoted all along the line at figures which in well-informed circles are held to be far below their real value. The present week has shown some improvement upon the worst, but values are still at a sufficiently low level to encourage speculators to send large orders to their stockbrokers. Almost without exception, the financial papers have advised their readers to buy at the depreciated rates, and the rally which has been noted during the last day or two is probably the result of a widespread acceptance of this counsel. It would be too much to say that, so far as the South African market is concerned, the prospect is everything that could be wished. Undoubtedly, the situation in the Transvaal and Rhodesia is not without certain depressing features. The results of the JAMESON Raid are not by any means yet to be left out of count, and the possible consequences of the fast-ripening animosity between Boer and Uitlander do not form a pleasant subject for the contemplation of the mining investor. There is, again, much left to be desired in the attitude assumed by President KRUGER on the question of the Chartered Company's indemnity; while the high state of armament into which the Transvaal towns and the burghers' forces have recently been put, raises the question as to whether the object of the equipment be of a defensive character, or elaborated with a more aggressive intention. The rinderpest, of which we treat at somewhat greater length in another article, is a similarly disturbing factor in regard to Rhodesia, which has yet to establish its claim to be considered a productive gold mining country, and the development of which was looked for as one of the certain results of the pacification of the rebellious natives. These considerations, however, after due weight has been allowed to them, are by no means final. The Transvaal question has long been with us, and more than once has assumed a more threatening aspect than the present, without breaking out into actual war. And, although President KRUGER's attitude in relation to the Uitlander question is distinctly open to criticism, there is, as we have before stated, considerable reason to suppose that the extreme measure of repudiating the Suzerainty has not passed into his mind as an article of sound statesmanship. Where so many diverse opinions have been expressed in quarters that are generally well informed, it is in the last degree hazardous to predict what will take place, but at least there is no sufficient grounding for the abundant play which people are giving to their imaginations in regard to this question, or for the confident predictions of impending strife with which some pessimists are in the habit of garnishing their conversation. As to the rinderpest, the evils which are assumed as certain to follow in the train of the disease may have been exaggerated, and once it is stamped out, a recurrence, if the specialists speak correctly, is extremely unlikely, provided some method of preventive inoculation be discovered with the object of rendering the cattle for the future infection proof. These considerations go far to modify the unsatisfactory nature of the possibilities we have described, but it may be doubted whether the situation in the Transvaal or the rinderpest have had half as much to do with the low barometric condition of the Mining Market as a number of unsubstantial rumours on every inconceivable subject which have been made the stock-in-trade of the amiable confraternity of the bears. One of the most remarkable features in this connection has been the large measure of credulity displayed by the public at large, whose greedy appetite for sensational hearsay has more than equalled the inventive ingenuity of the pessimistic romancists. The prompt manner in which each successive rumour was shown to be an airy nothing did not prevent the next fiction in order of succession from obtaining credence in the over-sensitive minds of the general investing public, and the unfortunate versatility of that imaginative brotherhood rose grandly to the demands made upon them. This interesting process of invention and contradiction, reiteration and exposure cannot, however, go on indefinitely, and a time must shortly come when the public will learn to put a true value upon the unscrupulous creations of the speculator. With the public mind arrived at this happy stage, we may expect to see a sharp rally in South African shares, and a decided lifting in the heavy atmosphere which has hung for so long a time over the Kaffir department of the Stock Exchange.

THE RINDERPEST PLAGUE.

A GENERAL concensus of opinion points to the rinderpest, which is now spreading its ravages through South Africa, as an evil greater in extent than any which has afflicted the colony for many years. Mr. F. R. THOMPSON, who lately acted as Special Rinderpest Commissioner to the Cape Parliament, does not hesitate to say that the evil is one before which the Transvaal war, Rhodesia rising, and the JAMESON ride pale into utter insignificance. There seems to be no possibility of checking the disease, which will, no doubt, rage through the whole country until it reaches the seaboard, and the calculations of specialists are to the effect that not 1 per cent. of the Cape cattle will be saved. The immediate effects of the disease upon the food supply are sufficiently grave, but these again, it is probable, will be completely dwarfed by the secondary results which, it is expected, will ensue. Their cattle slaughtered, the natives failing to grasp the necessity of the measure, may not improbably make common cause against the whites, with a race war and all its attendant evils as the consequent conclusion. The recent rising in Rhodesia is sufficiently prominent in our minds to lend force to this suggestion. It is, however, satisfactory to know that the Government circles are coming to recognise the futility of shooting cattle as a means of stamping out the disease, while the irritating effect which this proceeding causes upon the natives is recognised on all hands. After the rebellion it is to be expected that the native mind should be in a state of acute sensitiveness, and anything which could be expected to allay this should not be wanting on the part of the whites. It is peculiarly aggravating that, just at a time when South Africa appeared to be partially recovering from the effects of the many disturbing influences which have been operating there during the past twelve months or so, the rinderpest evil should have reached such considerable, and possibly fatal, dimensions as, according to the best sources of information, it has now attained. Not the least among the many unfortunate results which will, in all probability, be occasioned by the trouble is the delay in the development of Rhodesia, which must necessarily follow upon any renewal of hostilities with the native populations. The long-awaited settlement of the question whether the territories of Rhodesia are payably auriferous, which it was hoped would shortly be definitely furnished, must be relegated to a remote futurity if a series of race wars, similar to the one recently concluded in Rhodesia, are to break out all over the southern part of the African Continent. Nor is it at all certain, as some people imagine, that the social evils thus threatened will be compensated for by the spread of a better feeling among the different white races now peopling the southern part of Africa. It is true that in completely stamping out the native rebellion the white races have got a common cause, but once the difficulty has been solved the old disagreements between Uitlanders and Boers will remain in all their force, and will not be brought at all nearer settlement by the vanquishing of the dusky belligerents. There is, at least, a possibility that affairs may not reach so unfortunate a climax. The decision not to shoot the cattle of the natives may have the effect of preventing the Kaffirs from associating the whites with the food scarcity which, even at this early stage, has declared itself in the country. Whether or not an actual race war does declare itself, there is no disguising the fact that a period of some anxiety is now commencing in South Africa.

VICTORIA'S LABOUR TROUBLES.

OUR correspondent continues to furnish strong testimony to the remarkable gold richness of the colony of Victoria. But with the extremely hopeful news which he is able to send us week by week, there is mingled a note of depression for we are told that there is a steady and regular emigration from the colony of its skilled labour. South Africa and Western Australia are the gold fields which are attracting it, and it furnishes a very instructive object lesson of the proneness of a certain type of human nature to lose the substance by grasping for the shadow. This is the great trouble, then, against which

the colony has to contend, and which threatens to retard in a serious measure the progress of the gold industry upon which its welfare mainly depends. On the other hand, it is not an unmixed evil. It is good news to intending emigrants from this and other parts of the British Empire, where over-population is a very serious problem. If Victoria is losing its skilled labour, and if it is consequently in sad need of this commodity, then there is a splendid opening here for the enterprising artisan, who, if he possess the desirable qualifications, is bound to succeed. We cannot but think that there is a prosperous future awaiting the mining industry of the colony, provided, of course, that the Government exercise wise guardianship over it, and that there be no repetition of its past history. At the present moment, there is a grand opening for miners to take the place of those who are risking their fortunes elsewhere. In an article upon the subject, the *Melbourne Argus* says:—"A large percentage of the men who are regularly leaving the Ballarat district for Western Australia and South Africa are miners, but, so far, no appreciable difficulty has been experienced in securing trained men at the principal mines. A few days ago, in response to an advertisement for 50 miners to go to Western Australia, the approaches of the office where they were to be engaged were thronged by between 400 and 500 applicants for employment. Many of these were tributers who had been working unremunerative blocks, a large number were mechanics, and others were considered to be physically unfitted for the prospective hardships of the life. All of these men in their anxiety to secure work readily called themselves miners, but, as will be realised, their pretensions could be allowed only in a comparatively few cases. As a rule, a good miner has little difficulty in obtaining work, but it is beyond doubt that some capable steady men are in enforced idleness. Occasionally experienced men have permanencies promised them to go to distant fields; but it is nearly always found that they have been engaged by managers in the other colonies under whom they have formerly worked, and who thus have personal knowledge of their capabilities. It is impossible to obtain reliable figures as to the exodus of workers, but the estimate of the several shipping agents is that since January, 1895, nearly 4000 persons have left the district. This total, however, is only approximate. In any case, there are no grounds for a belief that miners were any more numerous among the emigrants than clerks or mechanics." Bendigo is suffering in a similar manner. The field is rapidly losing all its skilful miners, whose places are filled, for the most part, by inexperienced and incapable men. To such an extent is this the case, and so seriously is the lack of experienced gold getters making itself felt, that quite recently at one of the leading mines the work of sinking a winze was postponed, because in answer to an advertisement for men to do the work, not a single man whom the manager judged equal to his requirements applied for employment. Such is the condition of things all over the colony, and it will be seen at a glance how seriously it is likely to effect its future well-being.

ECONOMY IN SOUTH AFRICAN MINING.

WE have had occasion many times of late to draw attention to the excellent and useful work which the Institution of Mining and Metallurgy continues to perform for the benefit of the profession and the industry over which it exercises its guardianship. During the short term of its existence it has made gratifying and remarkable progress, and, at the present moment, displays such vigour and promise that it is not at all hazardous to predict for it a highly prosperous career. Its able contributions to the literature of mining in all its branches has been strongly evidenced in the columns of this Journal, and its transactions, therefore, are valuable additions to the library of the metallurgist and mining engineer. This week we give a further portion of the very able paper contributed by Mr. EDGAR P. RATHBONE, on "Some Economic Features Connected with Mining on the Witwatersrand Gold Fields." This is a subject of the deepest interest, not only to scientists, but to a vast section of the investing community, and it is not too much to say that upon the success attending the solution of it is dependent in a very great measure the welfare of the great gold industry of the Rand. The peculiar formation of the Rand gold field is, of course, well known; but, though it is regular and dependable, the average yield is very low, and hence strict economy must be practised to make the majority of the mines pay. Although up to the present this problem has been tackled with great success, there is still room for further economies, and Mr. RATHBONE performs a great public service in pointing out where they may be introduced with advantage. We do not intend to follow the author through the whole of his paper. It is one well worthy of study, and though it is possible to disagree with him on many points, still, on the whole, he treats the subject with commendable success. Mr. RATHBONE is eminently entitled to be a guide upon this difficult subject, for he has been in a position which has given him exceptional facilities for deeply studying it, and therefore the paper which he has contributed will redound both to his honour and to that of the admirable institution which has had the privilege of introducing it to the public.

DEVON GREAT CONSOLS.

THE experience of the management of the Devon Great Consols during the six months ended last September may, doubtless, be regarded as a record one in mining ventures. In consequence of the long drought which extended over a period of nearly four months, the necessary supply of water for working the machinery was completely exhausted, while, at the same time, strange to say, Watson's part of the mine was inundated, the natural result of which was that the production of copper ore and arsenical mundic was reduced to a very low minimum. But, fortunately, Mr. PETER WATSON and the other officers persevered in their efforts to overcome the difficulties with such determination that though, under the circumstances, they might have been considered almost insurmountable, they were comparatively easily dealt with within a very short space of time. Thus much time and expense was saved, and at the present moment there is every indicaton of their efforts being amply rewarded before many more months have gone by. It is now, according to the mine manager, a good while since the various workings in the mines looked so favourable, and granted that nothing unforeseen happens, there is no reason whatever why the returns should not be very substantially improved upon at no distant date. In connection with this, it will be a great source of satisfaction to the proprietors to learn that besides the prospects of the production of arsenic being considerably increased, the marketable value also of this commodity will, it is confidently asserted by those interested in the trade, appreciate. In the event of both predictions being fulfilled, and one can see no reason for anticipating that they will not be, the coffers of the company should be materially enriched by this means alone.

THE MINING MARKET.

FRIDAY EVENING.

The settlement satisfactorily arranged. — Kaffirs easier after rising for the account. — West Australians firm.

THE present week has witnessed a distinct revival in prices, and a better tone in the African as well as the West Australian section, though within the last day or two Kaffirs have eased off from sheer lack of support. Business has been on but a meagre scale apart from some closing operations by professional bears. Not that this condition of things is confined to the Mining Market, for brokers are complaining generally of the apathy of the public who profess to regard the approach of Christmas as a sufficient reason for continuing to preserve the attitude of spectators. The closing up of the two unwieldy speculative accounts received at the Special Settlement in Transvaal Gold has had the effect of clearing the atmosphere, for the time, at any rate, of the flood of rumours affecting personal credit. The account was arranged on Monday and Tuesday with the greatest possible ease, and nothing in the way of difficulties was even hinted at. The light rates on the leading speculative fancies indicated that there is still a preponderance of speculation for the fall, but no very serious crusade has been started against the bears, who seem to have been gathering fresh courage within the last day or two so far as the Kaffir Market is concerned. The concensus of opinion at the moment is that no very decided movement either up or down is to be anticipated before the end of the year. A consensus of opinion is a very dangerous oracle to follow We are not called upon in this column to offer any forecast of the course of prices, and accordingly will confine our remarks to mere record.

On Saturday a good tendency was manifested in all departments, buying back in anticipation of the Settlement being the order of the day. A strong upward movement was started in Lake View Consols which was reflected all through the Westralian Market, and continued it well into the middle of the week. Monday was Making-up day, and, as already stated, the account was easily arranged. On Tuesday, Contango Day in the Railway and General markets, matters were quiet during the morning, but prices went ahead during the afternoon, and closed at their best. There was an easing off in Kaffirs during Wednesday afternoon, for which the *quidnuncs* were not long in finding an explanation in rumoured difficulties to be disclosed on the morrow. Westralians, however, maintained their firmness. Thursday was pay day, and the Settlement was concluded without the least confirmation of overnight rumours. Things have been dull in the African Section to-day, and prices have given way from sheer lack of support. Westralians, however, have been very firm and the appearance of the prospectus of the North-Western Associated Mines does not look as though the insiders were particularly nervous as to the future of the market. At any rate, prices in this department generally have shown a rising tendency, though it cannot be said that business has been on a large scale.

South Africans.

The carry-over on Monday was easily arranged, the average rate charged on gold shares being from 5 to 7 per cent., with a hardening tendency towards the close. On Goldfields, the Contango was not much more than 2 per cent. to start with, but this stiffened later on in the day. On Chartered about a penny was paid in the morning, which afterwards increased to over twopence. Five per cent. was the minimum charge on East Rands. Goldfields made up at 8½, which, allowing for the dividend deducted, represented a loss of ⅜ on the account. On Tuesday evening the shares were as good as 8⅝ buyers, but they have since sagged away to 8 3/16, which leaves them unaltered on balance. Goldfields Deep were at one time as good as 7⅝, but they have relapsed to last week's price—namely, 6½. Gold Trusts are ¼ up on balance at 6¼. An official announcement was made on Thursday that the new Chartered issue had been over subscribed. The result is that shareholders applying for more than their *pro rata* allotment will have to be content with 40 to 50 per cent. of the excess applications. The old Chartered shares have been up to 2 7/16, closing 1/16 better at 2½. East Rands have been 4 7/16 buyers on a report that the new issue scheme is shelved owing to the insufficient number of proxies lodged with the directors. East Rands have been weak to-day, with the result that they are finally only ⅛ better at 4½. Small gains are shown in the subsidiaries, Comets at 1½, and Angelo at 3¾. Anglo-French Exploration have put on ¼ at 3¼. Gains are seen in the shares of several Land and Exploration companies, such as African Estates at 1 3/16, Hendersons at 1⅞, Mashonaland Agency at 1⅛, Oceana at 1 3/16, Mozambique at 1 3/16, Willoughby Consols at 1¼, Zambesia at 2. Deep Level shares have been quiet, though Nourse Deep have risen ⅛ to 4, at which figure Consolidated Deeps are unaltered. Geldenhuis Deep are the turn harder at 4¼, whilst Rand Mines have lost ⅜ at 23⅜. Whilst the Settlement was in progress the Barnato division made some show of supporting their specialities, but quotations have eased off again in sympathy with the generally weaker tone. Barnato Consols have risen ⅛ to 1 1/16, Buffelsdoorn ⅛ to 2, Ginsberg 1/16 to 1 1/16, Glencairn 1/16 to 2⅛, London and Paris 1/16 to 1, after being 1⅛, May Consolidated ⅛ to 2 1/16, and Primrose ⅛ to 4¼. Johannesburg Investments were over 2⅝ at one time, but close unaltered at 2 1/16. In the Robinson Group a good business has been done in Randfonteins, which have been up to 2 1/16, closing, however, only 1/16 up at 2⅛. Randfontein North have risen ⅛ to 1⅛, and Block B 1/16 to 1 3/16, whilst Langlaagte are unchanged at 4⅜. Gold shares have been unfavourably affected by some disturbing rumours respecting the Wemmer mine, where the reef is said to have been lost in one direction. The market in Wemmers is restricted, so that an exaggerated effect is secured by a small transaction. The shares are ⅜ down at 6⅝. Modders have lost 1/16 at 3⅝, and Jubilee ⅛ at 7⅛. On the other hand, Village Main Reefs have risen ⅜ to 5, Simmer and Jack ⅛ to 4⅛, Henry Nourse ⅛ to 6⅛, Jumpers ⅛ to 4⅛, and Citys 1/16 to 3 1/16. A spurt in Meyer and Charlton has carried those shares up to 5⅛. Kleinfontein have risen ⅜ to 2⅝, Durban Roodepoort ⅛ to 6⅛, Bantjes 1/16 to 2 1/16, Knights ⅛ to 4⅛, after being over 5, Robinson ⅛ to 8⅝, Steyn Estates 1/16 to 1⅛, Van Ryn ⅛ to 3⅝, Wolhuter ⅛ to 4⅞, and Vogelstruis ⅛ to 4. There has been a severe relapse from the spurt which took place in Transvaal Gold after the Special Settlement, which was due entirely to the repurchases of bears, who had sold in anticipation of the difficulties which were disclosed. The price is down ⅜ at 4⅛. Shebas have been extensively supported, and show a rise of 1/16 at 2 1/16. There has been nothing much doing in the small Lydenburg shares, but gains are seen in Balkis at 4s. 9d., Barretts at 12s. 6d., and Lydenburg Estates at 1⅛. Spitzkops are unchanged at ⅛. Jagers have been up to 11, but have failed to maintain their price, closing only ⅛ better at 10⅛, whilst De Beers have lost 1/16 at 29 1/16.

West Australians.

Some extensive movements have taken place in this section since we last wrote. Foremost among these is the jump in Lake View Consols, which went over 8 on Tuesday, having been down to 5⅛ only ten days before. Some extraordinary stories were flying about to account for the strength of the shares. An 8 foot reef, assaying 35 ounces to the ton, was but one of the wonders to be found in the mine. At the close the shares are only ⅜ up at 7⅛, having been rather exceptionally flat this afternoon. The shareholders' meeting of Hannan's Brownhill passed off satisfactorily this morning, and the shares are finally 1/16 up at 4⅛. The Great Boulder crushing of 2126 ounces from 70½ tons had no immediate effect on the market, but the shares are 1⅛ better at 6⅜. The sensational movement to-day has been in Golden Horseshoes, which have risen nearly 10s., completing a gain of ⅝ at 2⅛. Boulder Main Reefs have relapsed from their spurt of last week, and close 1/16 down at 1⅛. North Boulders are unchanged at ⅛. The whole of the Associated Group has been good to prepare the way for the issue of the North-Western company. Joint Stocks Trusts have improved 1/16 to 2 1/16 premium, Associated 1/16 to 2⅛, Associated Southern ⅛ to 1 1/16, Oroya 1/16 to 1 1/16, and Lake View South 1/16 to 1⅛. Hannan's Reward have risen 1/16 to 1 1/16, Star ⅛ to 1⅛, and Paddington Consols 1/16 to 1 1/16, but Lady Loch have relapsed 1/16 to 1⅛. The Menzies group is scarcely altered, Lady Shentons standing at 2, and Menzies Reef and Florence each at ⅞. White Feathers have risen 1/16 to 1 1/16, and Golden Crowns ⅛ to 1⅛. Hit or Miss have lost 1/16 at ⅞, and a similar decline is shown at the same price by Ramage Syndicates. The subsidiaries of the latter concern are without quotation. Some good buying of W. A. Goldfields has brought about a recovery of ⅛ to 6⅛. Hampton Plains are unchanged at 3⅛. Mainland Consols have improved ⅛ to 2 1/16, and Mawson's Reward 1/16 to 1 3/16. Exploring and Finance and London and Globe are finally unaltered at 4⅛, after being better. Share Corporations are rather harder at 1/16 premium, and Colonial Finance have advanced ⅛ to 2⅛. A noisy meeting of the shareholders of the W.A. (Gold District) Trading Corporation was followed by a further decline in the price of the shares to 3s. 6d. with the Founders' nominally 4⅛.

Miscellaneous.

Copper shares have moved irregularly, for whilst gains of ⅛ are seen in Capes at 2 1/16, and Mason and Barry at 3⅛, Tharsis are unchanged at 5 3/16, and Anaconda have fallen 1/16 to 6⅛, and Rio Tinto 1/16 to 24 13/16. New Zealand shares have been firm, Waihi having risen ⅛ to 7⅛, Taitapu 1/16 to 3⅛, Kapanga 6d to 11s. 3d., and Hauraki 9d. to 16s. 9d. Indians keep firm. Mysores and Champion Reefs at 7⅛ are both ⅛ better, and Ooregums have recovered their dividends at 2 1/16 and 3⅛ for Ordinary and Preference respectively. There are no changes worth mentioning in Charters Towers varieties. Mount Morgans have relapsed 1/16 to 3⅛, whilst Mount Lyells have risen ⅛ to 4⅛. The bear attack on Aladdins has continued, and the shares are ⅛ down at 2⅛, but Wentworths are 1/16 higher at ⅛. Waratahs are unchanged at 10s. Some strength has been shown by Broken Hills, which have scored ⅛ at 2 1/16.

STOCK EXCHANGE SETTLING DAYS.

Consols.

Tuesday, December 1.

MINING MAKING-UP DAYS:

Tuesday, December 8. | Thursday, December 24.

MINING NAME DAYS:

Wednesday, December 9. | Monday, December 28.

ACCOUNT DAYS:

Friday, December 11. | Wednesday, December 30.

PESTARENA UNITED GOLD MINING COMPANY.

Notice is given that the coupon No. 38, of the 10 per cent. mortgage debentures of this company, due on December 1, will be paid on presentation at the office, 7, Queen-street-place, London, E.C., on and after that date.

EXPLORING AND GOLD MINING ASSOCIATION (LIMITED).

The adjourned ordinary general meeting of the shareholders in the Exploring and Gold Mining Association (Limited) was held at Winchester House, E.C., on Tuesday, Mr. R. C. Richards presiding. The Chairman explained that the meeting was adjourned from November 10, in order that the directors might present a fresh balance-sheet. In accordance with the request of the shareholders certain alterations had been made in the accounts, and they hoped that, as amended, they would be now passed. He then moved the adoption of the report and accounts.—Mr. Scott seconded the resolution, and considered that the explanation given by the board was very satisfactory.—Mr Higgins opposed the resolution on the grounds that the directors were drawing too heavy fees, and that, he alleged, the board had not carried out their pledge to place £5000 in cash to the reserve account solely for the benefit of those who took up the new issue of shares recently made by the company. —The Chairman replied that the £5000 to be reserved was to be in shares in the Prospectors' of Matabeleland (Limited).—After a long discussion the resolution was carried, and it was also agreed to appoint Mr. Bosanquet, the company's solicitor, to decide upon a settlement of all matters in dispute between the board and shareholders, and to report to the shareholders so soon as he has decided the points in question.—A vote of thanks to the Chairman concluded the meeting.

MINING IN THE UNITED STATES.

The cost of gold.—A new boom for Cripple Creek.—Rich ore from Idaho.—The output of South Dakota.—The gold sands of the Colorado River.—A new Mining Exchange.—Gold in mine timbers.—The Tesla-Edison chrysoscope.

(FROM OUR OWN CORRESPONDENT.)

NEW YORK CITY, NOVEMBER 17.

I HAVE frequently mentioned Cripple Creek in this correspondence. The subject may be criticised as a very hackneyed one. I admit the soft impeachment, but I plead, in extenuation, the fact that the Cripple Creek district alone among all mining camps in the United States supplies general statistics of a character to throw a light upon the financial results of mining considered as an industry rather than as a speculation. These statistics have recently been put forth in a form which is well worth consideration by all who are interested in mining and mining stocks. It is frequently asserted that it costs, on the whole, considerably more than $1 to get $1 worth of gold from the treasure house of Dame Nature. This assertion is, obviously, difficult to disprove, and has always had a deterrent effect upon the mind of the investing public. It may be useful, therefore, if I give a few figures that have recently been compiled with the view of determining the truth or falsity of the assertion—so far, at least, as one large mining district is concerned.

There have been, approximately, 9000 locations made in the Cripple Creek district. Many of them never got beyond the stage of a 10 feet hole dug in the hillside, a survey, and the payment of the recording fees. Others have cost some thousands of dollars, when attorneys' fees for conducting patent applications and Court costs were added; but in such cases pay ore was generally being obtained. Probably the following estimate is not far from the truth:—

4000 patented claims costing an average of $1000 each	$4,000,000
5000 unpatented locations costing an average of $200 each	1,000,000
Total cost of the claims ..	$5,000,000

For the past three years numerous lessees have been at work developing the ground, and have probably expended for labour and materials an average amount of about $5000 per mine. Assuming that the number of such cases is 1000, we have a further cost of $5,000,000.

Money spent by outsiders in buying claims and developing them is difficult to figure with certainty, but all the large transactions that have been made public do not reach $1,000,000; and if we put the total amount of outside money at $2,000,000 we shall probably be well over the mark.

This, then, gives for the total cost of the Cripple Creek district, including all prospecting, patenting, purchasing of claims, and development, the following:—

First cost	$ 5,000,000
Work of lessees	5,000,000
Capital provided by purchasers..	2,000,000
Total	$12,000,000

Against this the output of the camp stands as follows:—

1891	$ 2,300
1892	585,010
1893	2,010,367
1894	3,250,787
1895	9,320,000
1896, say	10,000,000
Total	$25,168,464

It would appear, therefore, that in the Cripple Creek district the cost of producing gold is less than 50 cents in the dollar, even when all failures are taken into account. What, then, becomes of the parrot cry that investors who go into gold mining must needs expect, one with another, to pay more than a dollar for $1 worth of gold? Here, be it noted, is not a case of a single lucky find. It is a case built up of thousands of ventures, and thus affords logical warrant for broad generalisation. Let us hope that we shall hear no more of the unfounded nonsense that seeks to decry the principal productive industry of the world.

Before quitting the subject of Cripple Creek, I may add that, as time goes on, further evidence becomes apparent of wealth far greater than was at first supposed to exist. Fresh discoveries of an unquestionable character are continually being reported in sections lying outside what were the original limits of the district. Woodland Park, for example, in El Paso County, north of Cripple Creek, has, of late, begun to make a wonderful showing. In January last gold float was accidentally discovered there, and a good deal of prospecting has since taken place. A dyke composed of quartz and porphyry has been shown to exist for a length of quite 1½ miles with gold-bearing ore at every opening. 30 assays have averaged over $12 per ton. In addition to this, a regular fissure vein has been opened up, and has produced ore running into the hundreds. One shipment of 1302 lbs. of float rock sent to Denver netted $625; and the general opinion seems to be that there will be a rush to Woodland next spring.

The record, however, for rich shipments has recently been made by a carload of ore received by the State Ore Sampling Works in Denver from the Trade Dollar Mine near Silver City in Idaho. The assay value was 41 ounces of gold and 2000 ounces of silver per ton. The carload weighed 22,846 lbs., and netted $50,438.

News comes from Deadwood, in South Dakota, that the annual report of State Mine Inspector Jeffrey will show an output for the year ending December 15 of more than $7,000,000 in gold. Of this the Homestake Company has produced $4,000,000, the Deadwood and Delaware smelter $1,500,000, the Golden Reward chlorination mill $950,000, the Keldonan mill $1,350,000, the cyanide plant $150,000, and several other smaller mills about as much more. This is $2,000,000 more than was produced by the Black Hills in 1895. And as about 3000 men are employed in either mining, prospecting, or placer working, the total cost of labour materials and superintendence is probably much over-estimated at a total of $5,000,000. Here, then, is another instance of gold throughout an enormous territory being produced, on the whole, at a very large profit instead of a loss.

The Colorado River has recently been very thoroughly prospected by F. M. Barnes, a Colorado miner, who has travelled down the stream, examining the sand bars for gold. He says he bars all the way down to the Needles are filled with gold, and that so soon as the problem of working them in a practical manner shall be solved the output will be very large.

There has been a talk of endeavouring to revive the New York Mining Exchange, which failed so badly in the early part of this year. Many outside brokers who desire a convenient room of machinery for the manufacture of quotations have during the past summer and autumn laid their plans for something of the kind to take effect soon after the election. Now that Mr. McKinley has become our national choice, these worthies seem really about to act. For a long time they asserted their undertaking to be virtually a chapel of ease for the great New York Stock Exchange itself, and they recently announced an election of officers and a list of members, in which some not very well-known names from that august institution were made the most of. During the last day or two, however, these ambitious proclamations have received a check. The newspapers have published authoritative statements to the effect that the proposed New York Mining Exchange (which must not be confounded with the existing and quietly-conducted Mining and Industrial Exchange of New York) is neither directly nor indirectly connected with the New York Stock Exchange. The secretary of the latter body, Mr. George W. Ely, is reported to have expressed himself as follows:—"The Stock Exchange has taken no action, nor is any comtemplated, looking towards the permitting of its members to join the new mining exchange. In my judgment it would be rather a risky undertaking for any member of this exchange to affiliate with it, and I doubt if any propose doing so. If activity in mining should spring up, the New York Stock Exchange will give its members every opportunity to take advantage of it; and, therefore, there is no necessity for their joining any other exchange."

I recently alluded to what I thought was a matter of common knowledge among mining engineers and geologists—namely, the occurrence of gold in old mining timbers. I find, however, that my allusion has been read by many people with more or less astonishment. I have, therefore, put myself in communication with friends in several of our mining districts, and hope shortly to be able to present your readers with some interesting facts and details. In the meantime, I may remind them of certain experiments which were carried out by Mr. J. Cosmo Newbery, chief of the Technological Museum in Melbourne. That eminent expert (says Mr. Florence O'Driscoll, from whose "Notes on the Treatment of Gold Ores," I quote) "was examining mine timbers which had long been saturated by mine waters, expecting to find in the fibres of the timber gold which had been precipitated from solutions. Some large logs of undressed close grained eucalyptus timber, which had been in mine waters between 12 and 14 years, were experimented upon; the outsides of these were cut away and perfectly sound pieces were obtained. These were dressed quite smooth, and to all appearance were as ordinary pieces of planed timber. They were then carefully calcined and the ash examined, a considerable quantity of highly minute gold and silica being found. Microscopical examination of these showed that both gold and silica were in irregular particles, quite unlike the forms they would have assumed had they been there precipitated from solutions; the capillary attraction of the wood had drawn them amongst the fibres together with the water." The logic of this conclusion is diverting. If the gold had been merely filtered out from the water the particles found must have been in the same condition as to shape and appearance as when they were in their original rocky matrix. But they were admittedly deposited in such matrix as a precipitate from solution. Therefore, their shape and appearance were, on the filtration hypothesis, actually indicative of a precipitate formation rather than opposed to it. Besides, the timbers had been calcined, and he would, indeed, be a stout believer in the unchangeability of gold who would expect a precipitated deposit of that metal to refrain from assuming the form of "rough and irregular particles" when subjected to such an ordeal.

But all such questions are soon to be answered if we may believe a scientific rumour now going the rounds with regard to a hitherto well-kept secret, which would probably have remained undivulged for some time longer had not the *Revue des Sciences* of the *Journaldes Débats* recently given an account of certain work done by Edison and Tesla in the direction of gold formation. Discussion having thus been initiated, it has leaked out that the two great discoverers in question have joined forces, and are preparing for the mining world a marvellous and yet, to all appearance, a most practical and useful ally. It is, I hear, to be called the Chrysoscope, and is said to be a portable apparatus by which the presence of metallic gold, even in microscopic particles, can be readily detected in rock, sulphurets, or minerals of any description. The prospector need no longer encumber himself with a heavy pestle and mortar and pan, and need no longer spend hours and days in climbing mountains for ore and descending them for water. He will be able to pick up a piece of "float," or break a fragment from a ledge, and, by means of the light and small chrysoscope, he not only can then and there determine the bare fact of the mineral being auriferous, but can also form a fairly approximate estimate of its value. No one seems to know, or to be willing to say, in what manner the instrument works; but this will, of course, be made clear when the patent specification shall be published. Some people are of opinion that Tesla and Edison have found out some property akin to magnetism in gold, and this is thought to be rendered probable by the fact that some years ago Edison was about to patent a method of gold extraction by magnetic force, when he was forestalled by an article in the *Electrical Review* of this city, giving drawings and a description of an apparatus that another expert had previously invented for the same purpose. This, however, was a device for extracting gold from powdered matter by electrolytically coating the particles with iron, and thus rendering them susceptible of being magnetically separated. Obviously the system would not be applicable to the case of fragments of gold-bearing rock, nor would it be an operation capable of being carried out in the field. The enigma must, therefore, have some other solution. The most probable view I have heard advanced is that the chrysoscope works by means of some form of radiant energy. I myself was witness in May last of an experiment with ordinary sunlight, in the course of which a piece of quartz containing gold was made to produce a photographic picture in a closed receptacle, and, on this picture being examined, patches of varying form and depth of shade were found exactly corresponding with particles of gold and pyrite in the specimen. And as Professor Donnenn de Syke, of Vienna (or some other locality in Austria), is announced to have just discovered the existence of rays that will give photographic effects after passing through an iron plate 22 centimetres in thickness, it may well be that the new chrysoscope is, after all, a very simple instrument, composed of a small dark chamber and a kind of fluorescent screen, capable of delicate definition, and that no source of radiant and revealing energy is required other than that most familiar and most marvellous of all physical wonders, the sunbeam. The subject is so intensely interesting to our mining world, that we must all be tempted to guess and guess again, and it is with no little impatience that we here are awaiting the appearance of the new instrument in the market. One story, which I mention with all reserve, has it that the cause of the delay is a dispute between the two inventors as to whether the apparatus shall be called the Edison-Tesla chrysoscope or the Tesla-Edison chrysoscope. I suppose it would be clear irreverence if I were to say that this dire conflict is very suggestive of the time-honoured Tweedledum and Tweedledee; but the greatest stickler for propriety will allow us at least to smile.

THE METAL MARKETS.

THE METAL MARKET, LONDON, NOVEMBER 27.

Copper.

THE speculative market was depressed at the opening, in sympathy with the easier Lake quotation in the papers, and a large business, amounting to nearly 1300 tons, was done at declining values, spot changing hands at £49 2s. 6d. to £48 13s. 9d., and three months at £49 12s. 6d. to £49 6s. 3d. Tuesday was almost equally active, and the tendency was upwards, £49 s.c. and £49 15s. three months being paid. On Wednesday the turn over was again large, and £49 3s. 9d. s.c., and £49 16s. 3d. three months were attained. There was a slight falling off on Thursday, both in the volume of business and in values; and to-day, after transactions at £49 1s. 3d. to £48 18s. 9d. s.c., and £49 12s. 6d. to £49 11s. 3d. three months, the two positions closed respectively at £49 to £49 1s. 3d., and £49 12s. 6d. to £49 13s. 9d.

Tin

was flat on the opening day, with business in Straits tin at £58 7s. 6d. to £58 5s. s.c., and £59 5s. to £59 three months, the rise of 1-16d. in silver being without effect. There was more business done on Tuesday and Wednesday, buying on both days being fairly active, and after a further decline of 5s. the tone improved, with business done up to £58 10s. s.c. and £59 5s. three months. Thursday was a quiet day at easier rates, down to £58 6s. 3d. s.c. being taken. To-day we have had a dull market, with business at £58 7s. 6d. s.c. and £59 5s. three months. Billiton tin has risen from 35¼ fl. to 35⅜ fl. s.c., with three months at ⅛ fl. contango, and Banca closed at 35⅛ fl. spot.

Pig Iron.

Last week's shipments of pig iron from Scotland amounted to about 3750 tons, equal to an excess of about 350 tons over those of the corresponding week of last year. The Glasgow market, after opening firm at 48s. 7½d. s.c, fell away to the extent of 6d. per ton, but only temporarily—the decline being succeeded by a vigorous reaction which carried the spot value up to 48s. 11½d. After a relapse to 48s. 8½d. the market closed firm at 48s. 9½d. buyers, with sellers at ½d. more. Hematite closed at 50s. 10d. and Middlesbrough at 40s. 9d.

Lead.

continues firm, with more inclination to operate on the part of consumers. The close is steady at £11 12s. 6d. to £11 15s. soft foreign, and £11 17s. 6d. to £12 English.

Spelter.

The week opened a shade firmer with ordinaries at £17 15s., and has remained very steady until the close, which is firm at £17 15s. to £17 17s. 6d. ordinaries, and £18 to £18 2s. 6d. specials.

Antimony

is unchanged at £29 10s. to £30.

Quicksilver

shows no alteration, the quotation being £6 12s. 6d. for firsts, and £6 11s. for seconds.

The following are to-night's (November 27) prices of metals:—

		£	s.	d.		£	s.	d.
Copper								
Tough cake and ingot		52	0	0	.....	52	10	0
Best selected		52	10	0	.....	53	11	0
Electrolytic Copper		53	10	0	.....	55	10	0
Sheets and sheathing		—			.....	61	0	0
Flat bottoms		—			.....	64	0	0
Chili bars	spot, & 3 months respectively	49	1	3	.....	49	13	9
Good merchantable								
Copper tubes, seamless		—			.....	0	0	8½
Alloys								
BRASS: Wire		—			.....	0	0	6¾
" Tubes (solid drawn)		—			.....	0	0	7
" Sheets		—			.....	0	0	8½
PHOSPHOR BRONZE: Alloys II.		—			.....	81	0	0
" " III. or VII.	Cog Wheel Brand	—			.....	83	0	0
" " XI.		—			.....	78	0	0
" " Vulcan brand A1		—			.....	72	0	0
DURO METAL		—			.....	73	0	0
BULL'S METAL		—			.....	65	0	0
Ferrobronze (Vivian's)								
Ingots	per lb.	0	0	6¾	.....	—		
Ordinary sheets, plates, bolts and bars		0	0	7¾	.....	—		
Screw bolts and nuts		0	0	8¾	.....	—		
Pump rods, plain		0	0	7¾	.....	—		
" finished		0	0	10¾	.....	—		
DELTA METAL: No. 4 (per ton)		—			.....	—		
" Sheets and plates (per lb.)		—			.....	—		
" Bars, round, square, flat (per lb.)		—			.....	—		
" " hexagon (per lb.)		—			.....	78	0	0
Tin								
English, ingots, f.o.b.		62	5	0	.....	62	10	0
" bars		63	5	0	.....	63	10	0
" refined		64	5	0	.....	64	10	0
Straits, spot, and three months respectively		58	10	0	.....	59	7	6
Australian, spot, and three months respectively		60	5	0	.....	61	2	0
Banca " (in Holland)		60	0	0	.....	60	2	6
TIN PLATES; Charcoal, best quality	per box	0	14	6	.....	0	13	6
" ordinary		0	11	0	.....	0	13	6
" Coke, best quality		0	10	9	.....	0	11	0
" ordinary		0	10	3	.....	0	11	6

These prices of tinplates are f.o.b. at Swansea; at Liverpool 6d. per box more.

Iron								
Pig, G.M.B., f.o.b., Clyde, spot		—			.....	2	8	10
" Scotch pig, No. 1 Gartsherrie		—			.....	2	12	6
" " Coltness		—			.....	2	14	0
" " Clyde		—			.....	2	11	6
" " Govan		—			.....	2	9	6
Bars, Welsh, f.o.b. Wales		—			.....	5	15	0
Plates "		—			.....	6	10	0
Bars, Staffordshire, at works		—			.....	5	17	6
Sheets "		—			.....	6	0	0
Plates "		—			.....	6	12	6
Hoops "		—			.....	6	0	0
Ship plates, Middlesborough		—			.....	5	15	0
STEEL: English spring		—			.....	12	10	0
" " cast		—			.....	45	0	0
" Rails at works, according to section		4	12	6	.....	5	5	0
Lead								
Spanish or soft foreign		11	12	6	.....	11	15	0
English pig, common		11	17	6	.....	12	0	0
" L.B.		—			.....	12	5	0
" sheet and bar lead		—			.....	12	15	0
" pipe		—			.....	13	5	0
" red		—			.....	14	10	0
" white		—			.....	17	10	0
" patent shot		—			.....	15	5	0
Spelter								
Silesian ordinary brands		17	15	0	.....	17	17	6
" special brands		18	0	0	.....	18	2	6
English Swansea		18	17	0	.....	18	14	6
Sheet Zinc		20	5	0	.....	20	0	0
Antimony								
Antimony		29	0	0	.....	29	10	0
Quicksilver								
Flasks, 75 lbs warrants		6	11	0	.....	6	12	6
Manganese Ore, c.i.f., U.K. ports	per unit.							
1st quality, 50 per cent. and upwards		0	0	11	.....	0	1	1⅛
2nd " 47 per cent. to 50 per cent.		0	0	10	.....	0	1	0
3rd " 40 " 47 per cent.		0	0	8	.....	0	0	11
Aluminium	Per lb.					Per lb.		
98-99¾ per cent.		0	1	4¾	.....	0	1	6
Nickel								
98-99 per cent. guaranteed		0	1	2	.....	0	1	4

ERRATA.—In report of November 13, under Lead, *read*—"The final quotations are £11 8s. 9d. to £11 11s. 3d. soft foreign, &c. In report of November 20, under Spelter, *read*—Values *rose* (instead of *have risen*); the prices given were the correct *closing* prices, the rise having been lost again).

HANNAN'S KING (BROWNHILL) GOLD MINING COMPANY (LIMITED).—On and after Monday, the 23rd inst., the registered offices of this company will be situate at No. 10, Coleman-street London, E.C.

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—*Ay*, Antimony; *A*, Arsenic; *Bl*, Blende; *Bx*, Borax; *C*, Copper; *D*, Diamonds; *G*, Gold; *I*, Iron; *L*, Lead; *M*, Mundic; *N*, Nitrates; *P*, Phosphates; *Q*, Quicksilver; *R*, Ruby; *S*, Silver; *S-l*, Silver-lead; *Sul*, Sulphur; *T*, Tin; and *Z*, Zinc. * in the "Amount of Share" column of British Mines signifies that the mine is conducted on "Cost Book" principles;] in the "Head Office" column of African Mines signifies that the address given is not that of the head office but of a sub, or transfer office; and †, following the names of African Mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

. The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share Dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that while our Share List will almost invariably be found correct, we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

AFRICAN MINES.

Name.	Closing Price, Nov. 27, 1896	Closing Price Nov. 20, 1896.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£		£ s. d.			
Abbott's Con. Reefs	—	5/16 7/16	1 0	—	1 0 0	—	De Kaap	Broad Street Avenue
Adler Consolidated	¾ 1	¾ 1	1 0	2/ Oct. 15, '96	1 0 0	250,000	Transvaal.	1, Moorgate place.
Afrikan Estates......	1⅛ 1¼	1 1⅛	1 0	2/& rtsOc.16 95	1 0 0	438,600	De Kaap...	3, Copthall-buildings
,, Gold Rcvry.	⅜ ⅞	¾ 1	1 0	rts Oct 30 '95	1 0 0	175,000	—	23, College Hill,
Afrikander ...... *G*	1 1¼	⅞ 1⅛	1 0	rts May 24 '95	1 0 0	40,000	Transvaal.	13, College Hill
Alexandra Estate *G*	¼ ⅜	7/16 9/16	1 0	—	1 0 0	225,000	Rand	16, George street
Angelo	3⅜ 3⅝	3⅜ 3⅝	1 0	—	1 0 0	175,000	—	Winchester House
Anglo-French Exp.	3 1/16 3 3/16	3⅝ 3¾	5 0	3/- Sept. 30 '96	5 0 0	30,300	S. Africa	3, Princes street
,, Matabeleland	⅜ 1	—	1 0	—	1 0 0	39,750	Matabld.	Winchester House.
Appantoo .... *G*	—	—	1 0	—	1 0 0	77,885	West Cost	Dashwood House.
Aurora .... *G*	⅞ 1⅛	1 1¼	1 0	5% Mar. '93	1 0 0	65,000	Rand	8, Old Jewry.]
,, West United.	⅞ 1⅛	1 1¼	1 0	—	1 0 0	100,000	,,	7, Lothbury
Balkis Eersteling *G*	1/6 2/	/9 1/3	10/	—	0 10 0	520,000	Transvaal	85, Gracechurch-st.
,, Land	4/3 4/9	3/6 4/	10/	1/ Feb. 13, '96	0 0 0	520,000	,,	,,
Bantjes Consol ...*G*	2⅛ 2¼	2 1/16 2 3/16	1 0	rts Sep 24 '95	1 0 0	83,000	,,	15, Geo. st., Mn Ho.
Barnato Consol ...	1⅞ 2	1⅝ 1¾	1 0	—	1 0 0	1,000,000	—	7, Lothbury.
Barrett............*G*	12/ 13/	10/ 11/	10/	—	0 9 0	207,496	De Kaap	17, Basinghall-street
Bechuanaland Exp.	1 1/16 1 3/16	1 1/16 1 3/16	1 0	rts Jy 24 '95	1 0 0	400,000	Bechuana.	19, St. Swithin's-lane
,, Trad g Assoc.	⅞ 1	⅞ 1	1 0	1/6 July 15,'96	0 10 0	94,307	,,	72, Basinghall street
Big Golden Quarry	/3 /6	/3 /6	5/-	—	0 5 0	483,226	Kaap Rivr	Warnford Court,
Block "B" Lang.	1⅛ 1¼	⅞ 1⅛	1 0	—	1 0 0	535,000	Rand	8, Princes-st, E.C.]
Bonanza	2 15/16 3 1/16	2 11/16 2 13/16	1 0	—	1 0 0	2?0,000	Turffont'n	120, Bishopsgate-st.
Brit. S. A. Char. ..	2 5/16 2 7/16	2⅛ 2¼xr	1 0	x rts Nov 12 96	1 0 0	,999,750	S. Africa	15, St. Swithin's-lane
Buffelsdoorn...... *G*	1⅞ 2⅛	1 11/16 1 13/16	1	16/- Nv. 28 '95	1 0 0	250,000	Potchefstr	7, Lothbury.
,, Central	⅜ ⅝	⅜ ¾	1 0	—	1 0 0	—	—	8, Old Jewry
,, Consolidated	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	225,000	—	Warnford Court
Cape Asbestos	¾ 1	¾ ⅞	1 0	—	1 0 0	50,311	Orange Rv	19, St. Swithin's-lane
,, Copper ......*C*	2⅛ 2⅜	2⅜ 2⅛	2 0	2/ June 12, '96	2 0 0	300,000	Cape Col.	9, Queen-street-place,
,, 6% Pref. ...	2⅜ 2⅞	2⅜ 2⅞	2 0	2/ June 12, '96	2 0 0	45,000	,,	,, ,,
Cassel Coal............	11/16 1 13/16	1 13/16 1 15/16	1 0	1/5 Oct. 29 '96	1 0 0	75,000	Johanbrg.	83, Cannon-street.
Cen. de Kaap	/9 1/3	/9 1/3	5/-	—	0 5 0	240,000	De Kaap	Palmerston Bldgs
,, Roodp't Deep	1⅜ 1⅝	1⅜ 1⅝	1 0	—	0 0	220,000	—	120, Bishopsgate st.
Champ d'Or...... *G*	1 1½	1 1⅛	1 0	3/2 Feb. 27 96	1 0 0	116,016	Rand	8, Old Jewry, E.C.
Charterland G.F...	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	150,000	—	19, S. Swithin's lane
Chimes West	⅝ 1	⅝ ⅞	1 0	—	1 0 0	150,000	—	Winchester Ho.
City and Sub. Nw *G*	3⅞ 4	3¾ 4	4 0	2/- Oct. 29, '96	4 0 0	340,000	Rand	Gresham Ho.
Con. Bultfontein *D*	31/ 32/	31/ 33/	1 0	9d, July 15,'96	1 0 0	[illegible],500	Griqualnd	62, Lombard-st
Con. Deep Levels *G*	3¾ 4⅛	3¾ 4⅛	1 0	6/- Oct. 29, 96	1 0 0	187,250	Transvaal	30, St. Swithin's-lane
Con. G. Fields S A.	8⅛ 8¾	8⅛ 8¾ xd	1 0	15/ Nov 12 '96	1 0 0	,250,000	S. Africa	8, Old Jewry,
Do. 6% Pref.	1 1/16 1 3/16	1 11/16 1 13/16	1 0	7 1-5d Jne26'96	1 0 0	1,242,999		,,
Do. 5½% Deben...	107 109	107 109	5 0	5½% July1,'96	5 0 0	600,000	,,	,,
Crown Deep ......*G*	9⅛ 10⅛	9 10	1 0	—	1 0 0	250,000	Rand	120, Bishopsgate-st.
,, Reef ......*G*	9⅜ 10⅛	10 10¼	1 0	12/ Oct. 29, '96	1 0 0	120,000	,,	,,
De Beers Consol. *D*	29 29⅛	29 3/16 29 5/16	5 0	22/- July15 '96	5 0 0	789,791	Kimberl'y	62, Lombard-street.
Do. 5% 1st Deb....	105 108	105 108	1 0	5% July 1 '96	1 0 0	£3,500000	,,	
Do. 4½% Bul. Ob.	99 101	99 101	1 0	4½% Oct. 1'96	1 0 0	£720,000	,,	,,
Driefontein	2⅛ 2⅜	1⅞ 2⅛	1 0	—	1 0 0	175,000	—	Winchester Ho,
Durban Roodept. *G*	6⅛ 6¼	6⅜ 6⅝	1 0	3/- Sept.16'96	1 0 0	£125,000	Rand	28, Leadenhall-bldgs
,, Deep..........	3¼ 3¾	3¼ 3½	—	—	—	—	—	
Eastleigh ....*G*	⅝ ¾	9/16 11/16	1 0	rts May 14 '96	1 0 0	240,000	Klerksdrp	52, Leadenhall Street
East Orion.........	1/16 ¼	1/16 3/16	1 0	—	1 0 0	275,000	Rand	8, Old Jewry.
,, Rand......... *G*	4 1/16 4 3/16	3 15/16 4 1/16	1 0	—	1 0 0	570,000	,,	170, Winchester-ho.
Exploration	2⅜ 2⅞	2⅜ 2⅝	1 0	rts June 26 '96	1 0 0	148,000	S. Africa	30, S. Swithin's-ln.]
Exploring L & M...	13/16 1 1/16	15/16 1 1/16	1 0	2/ Dec. 16, '95	1 0 0	216,215	,,	19, ,,
Ferreira ....*G*	18¼ 18¾	18¼ 18¾	1 0	25/ Aug. 28'96	1 0 0	45,000	Rand	120, Bishopsgt st. Wn]
French Rand	2 2⅛	1¾ 2	1 0	—	1 0 0	480,000	Rand.........	28, Austin Friars,
Geldenhuis Deep *G*	4 4⅛	4 4¼	1 0	—	1 0 0	265,000	Transvaal.	30, St. Swithin's-lane
,, Estate *G*	3 3¼	3 3¼	1 0	2/6 Oct. 29 '96	1 0 0	187,500	Rand	120, Bishopsgt st, Wn]
,, Main Reef	⅝ ¾	⅝ ¾	1 0	2/ Feb. 13 96	1 0 0	150,000	,,	Warnford Court, E.C
George Goch ...*G*	1 9/16 1 11/16	1 7/16 1 9/16	1 0	—	1 0 0	100,000	,,	Johannesburg.
Ginsberg New ...*G*	1⅝ 1¾	1⅝ 1⅞	1 0	—	1 0 0	130,000	Drietfon.	Warnford Court, E.C]
Glencairn ....*G*	2¼ 2⅛	2 2⅛	1 0	rts Sep. 30 '96	1 0 0	200,000	Rand	2, Drapers-gardens.
Golden Dove	1 1¼	1 1¼	1 0	—	1 0 0	60,000	Natal	65, Chancery Lane.
Gld. Fls. Deep...*G*	6⅛ 6¾	6⅛ 6¾	1 0	—	1 0 0	600,000	S. Africa	8, Old Jewry.
,, of Lydenb'rg	1⅞ 2⅛	1¾ 2	1 0	—	—	—	Lydenb'rg	7, Lothbury.
,, of Mashonld.	⅜ ¾	⅜ ¾	1 0	—	1 0 0	200,000	Mashonld.	19, St. Swithin's-ln.
,, Sierra d'l F'go	14/ 14/6	14/ 14/6	—	—	—	—	—	75, Leadenhall Street
Graskop ....*G*	3/3 3/9	3/ 3/6	5/-	¾% Mar. '92.	0 5 0	400,000	Lydenburg	2, Tokenhouse Bldgs
Gt. Estrn. Colliery	13/16 15/16	¾ 1	1 0	—	1 0 0	376,666	Grootolei	Gresham House.
Griqualand W....*D*	7⅞ 8⅛	7⅞ 8⅛	10 0	4/ July 15, '96	10 0 0	105,700	Transvaal.	62, Lombard-street
Heidelbg. Est. Ex.	¼ ⅜	¼ ⅜	1 0	—	—	—	Heildelbg.	
Henderson's Trans	1⅛ 2	1⅛ 1¼	1 0	—	1 0 0	250,000	Zoutpanbg	85, Gracechurch st.
Henry Nourse ...*G*	6⅜ 6⅝	6¼ 6⅝	1 0	—	1 0 0	100,000	De Kaap...	Warnford-court.
Jb'g Con. Invst (N)	2⅜ 2½	2⅜ 2½	1 0	2/ Sep. 30, '96	1 0 0	650,000	—	7, Lothbury.
,, Pioneer	8 9	7½ 8½	1 0	8/ Oct. 15,'96	1 0 0	21,000	Rand.........	Johannesburg.
Jubilee ....*G*	7¼ 8¼	7½ 8	1 0	4/ Oct. 29 '96	1 0 0	30,000	,,	8, Old Jewry.†
Jumpers ....*G*	4⅜ 4⅝	4 4¼	1 0	6/- Mar. 27 '96	1 0 0	100,000	,,	120, Bishopsgt st, Wn]
,, Deep......	4 5	5 6	1 0	—	1 0 0	300,000	,,	30, S. Swithin's lane
Kimberley .. ..*D*	par ½pm	pa ½ pm	1 0	1/ June 26, '96	0 10 0	98,672	Kimberley	19, Finsbury circus
,, Rdpt....	2⅛ 2¼	2 2¼	1 0	—	1 0 0	125,006	,,	2, Drapers-gardens.
Kleinfont in Cen.	⅝ ¾	½ ¾	1 0	—	1 0 0	225,000	E. Rand ...	Winchester House
Klerksdorp	8/9 9/3	7/6 8/	10/-	—	0 10 0	400,000	Klerksdorp	110, Cannon St.
Knight's Deep	1⅛ 2	1¼ 1⅜	1 0	—	1 0 0	295,194	Rand...... ...	8, Old Jewry
Koffyfontein......*D*	9/16 11/16	9/16 11/16	1 0	x.rts.Jun10'96	1 0 0	125,000	Jacobsdaal	6, Gt. St. Helen's.
Lancaster	2 1/16 2 3/16	1⅞ 2⅛	1 0	—	1 0 0	226,500	Luip. Vlei	20, Bishopsgt st. Wn
Langlaagte Est. *G*	4¼ 4½	4¼ 4½	1 0	3/ July 30 '96	1 0 0	470,000	Rand.........	59, Holborn Viaduct
,, Royal	1 1⅛	1 1¼	1 0	rts. Mar. 6 '95	1 0 0	100,000	,,	2, Drapers-gardens.
,, Star...	½ ¾	½ ¾	1 0	—	1 0 0	170,000	,,	
Lisbon-Berlyn ...*G*	5/ 5/6	4/9 5/3	2/6	—	0 2 6	583,233	Lydenburg	Suffolk House,
Lon. Paris Fin & M.	1⅛ 1¼	¾ ⅞	1 0	—	1 0 0	500,000	—	53, Old Broad Street
London & S. A. Ex.	15 15½	15 15¼	10/	4/- Sept. 30 '96	0 10 0	100,000	S. Africa ...	19, Finsbury-circus.
Luipaards Vlei......	1⅛ 1⅜	1⅛ 1⅜	1 0	6% Mar. '90	1 0 0	319,003	Rand...... ...	Warnford-court.]
Lydenburg Estate.	15/16 1 1/16	1 1⅛	1 0	—	1 0 0	190,000	Lydenburg	85, Gracech. Street
,, M'g. Est.	4⅜ 4⅝	4⅜ 4¾	1 0	—	1 0 0	300,000	,,	120, Bishopsgate St.
ain Reef (New) *G*	⅞ 1⅛	⅞ 1	1 0	—	1 0 0	111,500	Rand.........	15, George St., MnH
Marievale Nigel ...	⅝ ⅞	⅝ ⅞	1 0	—	1 0 0	250,000	,,	
Mashon. Agency...	1⅛ 1¾	1 7/16 1 9/16	1 0	2/ Ap 16 '96	1 0 0	100,000	Mashonald	8, Old Jewry, E.C.
,, Central...	11/16 13/16	11/16 13/16	1 0	—	1 0 0	180,000	,,	
Matabelel'd G. R'f	3⅛ 3⅜	3¼ 3⅛	1 0	—	1 0 0	110,000	Matabelel'd	3, Copthall-buildings
May Con. (New) *G*	2¼ 2⅜	2⅛ 2¼	1 0	2/- Mar. 12 96	1 0 0	236,509	Rand...... ...	4, Lothbury.]
Meyer & Charl....*G*	5¼ 5⅛	4¾ 5	1 0	5/ Feb. 13 96	1 0 0	75,020	,,	2, Bishopsgt st. Wn
Minerva	5/16 7/16	¼ ½	1 0	—	1 0 0	150,000	,,	Winchester House.
Mines Selection ...	⅞ 1	⅞ 1	1 0	—	1 0 0	100,000	—	33, Br'd St. Avenue.
Modderfontein.. *G*	3⅛ 3¾	4 4⅛	1 0	rts Aug. 28 '96	1 0 0	300,000	Rand.........	13, George Street
,, "B" Extensn.	1 1⅛	1 1 1/16	1 0	—	1 0 0	325,000	—	28, Austin Friars
Molyneux Consoli.	1 1¼	15/16 1 1/16	1 0	—	1 0 0	220,000	Modderftn	20, Bishopsgate st
Moodies ....*G*	9/16 11/16	½ 9/16	1 0	-/4 May '90	1 0 0	240,000	,,	Gresham House.
Mozambique.........	1¼ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	400,000	S.E. Africa	13, Austin Friars.
Namaqua ....*C*	1¾ 2	1¾ 2	2 0	3/- July 15 '96	2 0 0	94,351	Namaquald	34, Leadenhall-bldgs.
New African	1⅞ 2⅛	2 2¼	1 0	5/ July 15 '96	1 0 0	190,000	—	83, Hatton Garden.
,, Bultfontein *D*	1⅜ 1⅝	1¼ 1⅜	1 0	1/- July 20 '96	1 0 0	150,000	Griql'd. W.	6, Drapers Gardens
,, Chimes...... *G*	⅝ ⅞	⅝ ⅞	1 0	1/- Mar. 27 '96	1 0 0	100,000	Rand.........	8, Old Jewry, E.C
,, Comet	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	175,000	Heidelburg	Winchester-house.
,, Crœsus...... *G*	13/16 15/16	13/16 15/16	1 0	rts Apr 17 '95	1 0 0	255,000	Langlaagte	120, Bishopsgt. st, Wn
,, Heriot ......*G*	7⅞ 8⅛	8 8¼	1 0	4/ Oct. 29, '96	1 0 0	88,750	Rand.........	96, Gresham Ho
,, Jagersf. ...*D*	10 7/16 10 9/16	10 5/16 10 7/16	5 0	5/ Sep. 30, '96	5 0 0	200,000	Transvaal.	5, Copthall-buildings
,, Kleinfontein *G*	2⅛ 2¾	2⅛ 2⅜	1 0	rts. Sep. 30 '96	1 0 0	82,500	Rand.........	Winchester House
,, Midas	1⅛ 1⅜	1⅛ 1⅜	1 0	rts.Jan. 16, '96	1 0 0	150,000	Mid'le Vlei	120, Bishopsgt-st, W
,, Primrose ...*G*	4⅛ 4⅜	4 4¼	1 0	rts.Sep. 30, '96	1 0 0	278,750	Rand.........	2, Draper's-gardens.
,, Rietfontein *G*	2¼ 2⅛	2¼ 2⅜	1 0	—	1 0 0	160,000	,,	Warnford-ct., E.C.
,, S. Augustine *D*	2/6 3/	2/6 3/	1 0	—	0 19 6	299,137	Griqu'ld W	30-1, St. Swithin's-l.
,, Spes Bona.. *G*	⅜ 1	¾ 1	1 0	—	1 0 0	113,701	Rand...	24, N. John-st., E.C
,, Steyn Estate	1 5/16 1 7/16	1 1⅛	1 0	—	1 0 0	125,000	Heidelber	19 Bury Street pl.

AFRICAN MINES—(*Continued*).

Name.	Closing Price, Nov. 27, 1896	Closing Price, Nov. 20, 1896.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£					
Nigel .... *G*	2⅛ 2⅜	2⅛ 2⅜	1 0	rts Aug 10 '95	1 0 0	160,000	Rand.........	96, Gresham Ho, E
,, Deep ......*G*	15/16 1 1/16	15/16 1 1/16	1 0	—	1 0 0	195,000	Heidelberg	8 Old Jewry
North Charterland	5/ 7/ nom	5/- 7/- nom	1 0	—	1 0 0	800,000	—	Winchester House
,, Randfontein	1¼ 2	1¼ 1⅝	1 0	—	1 0 0	235,000	—	8, Princes street
Nourse Deep.........	3¾ 4¼	3¼ 3⅜	1 0	—	1 0 0	375,000	Rand.........	120, Bishopsgt.-st., Wn
Oceana Consoldatd	1⅛ 1¼	1 1/16 1 3/16	1 0	—	1 0 0	—	Wtrbg Lyn	13, Austin Friars.
,, Develpmnt	⅜ ½	⅜ ½	1 0	—	1 0 0	50,000	Heidelbrg.	
,, Minerals ...	7/16 9/16	⅜ ⅝	1 0	—	1 0 0	500,000	,,	
Orange F.S.E. ...*D*	2¼ 3	2¼ 3	1 0	4/6 Apr., 29, 96	1 0 0	284,000	Orange F.S.	10, Moorgate-street,
Orion (New).....*G*	11/16 13/16	9/16 11/16	1 0	10% Aug. 95	1 0 0	30,000	Rand.........	8, Old Jewry.
Paarl Central ... *G*	1 1⅛	15/16 1 1/16	1 0	—	1 0	138,750	Transvaal.	120, Bishopsgt st, Wn
Pardy's Mozambq.	¾ 1 nom	½ ¾ nom	10/	rts Mar 96	0 10 0	60,000	S.E. Africa	Broad St. Avenue,
Piggs Peak ......*G*	7/16 9/16	⅜ ½	1 0	—	0 1 0	200,000	Swazieland.	4, Sun Court,
Porges Randfontn.	13/16 1¼	1 1/16 1 3/16	1 0	2/ Feb. 13 '96		437,500	Rand.........	1, Bank Buildings
Potchefstroom... *G*	5/16 7/16	5/16 7/16	1 0	—	1 0 0	389,750	Potchefst...	19, Bury-st., E.C.
Princess Estate *G*	2 2¼	1⅞ 2⅛	1 0	—	1 0 0	125,000	Rand.........	20, Bishopsgate st
Rand Central Ore	¾ 1¼	1⅛ 1¼	1 0	25 p c Aug. 95	1 0 0	115,000	—	8, Princes-street, E.C
Randfontein ......*G*	2 1/16 2 3/16	2 1/16 2 3/16	1 0	xr June 12, 96	1 0 0	2,000,000	Rand.........	1, Bank Buildings
Rand Mines ...... *G*	23¼ 23⅜	23⅜ 23⅞	1 0	—	1 0 0	332,798	,,	120, Bishopsgt st. Wn
Rand-Rhodesia Ex	½ ¾	½ ¾	1 0	10 p.c. Oct. '95	1 0 0	25,000	R&Rhodesa	123, ,,
Rhodesia Ex & Dv.	4⅛ 5	4⅛ 5	0	—	1 0 0	50,000	Mt & Mash'l	15 & 16, Geo. St.
Robinson(SA)Bank	4⅜ 5	4½ 5	4 0	4/ Apl. 15, 96	4 0 0	750,000	—	8, Prince's-street
,, Deep......	6⅛ 7	6 7	1 0	—	1 0 0	500,000	M'nR'fR'nd	120, Bishopsgate st,
,, Diamond	¾ 1	⅝ ⅞	1 0	—	1 0 0	350,000	Kaal Valley	8, Prince's street
,, Gold......	8¼ 8⅛	8⅛ 8⅜	5 0	5/ July 20 '96	5 0 0	550,000	M. Rf.'rand	28, Austin Friars
,, Randftn.	1 5/16 1 7/16	1 1⅛	1 0	—	1 0 0	517,000	Rand.........	8 Prince's-street.
Roodepoort Deep	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	170,000	,,	8, Old Jewry, E.C.
Roodepoort Un. *G*	4 4⅛	3⅜ 3½	1 0	2/ July 30 '96	1 0 0	130,000	,,	Warnford-court,]
Rose Deep............	3¼ 4⅛	3¼ 3⅜	1 0	—	1 0 0	300,000	M. Rf.'rand	20-21, S.Swith's lane
Rothery Block......	⅛ ¼	⅛ ¼	1 0	—	—	—	—	55, Bishopsgate st
Sacke Estates	⅞ 1⅛	⅞ 1⅛	1 0	2/ June 12 '96	1 0 0	225,000	—	19, Bury Street.
St. Helen's Devel.	2⅛ 2⅜ nom	2⅛ 2⅜ nom	1 0	—	1 0 0	47,950	S. Africa ...	13, S. Helen's Place
Salisbury New ...	2⅞ 3⅛	2⅞ 3⅛	1 0	—	1 0 0	99,000	Rand.........	96, Gresham Ho, E
Sheba ....*G*	2 2⅛	1¾ 1 13/16	1 0	1/- Sept. 30 '96	1 0 0	850,000	Lydenburg	18, S. Helen's place
Simmer & Jack...*G*	4¼ 4⅜	4 4½	5 0	2/ Aug 14 95	5 0 0	940,000	Rand......	8, Old Jewry.
S.A GoldTrust New	6 6¼	5¾ 6	1 0	7/6 Jun 26 '96	1 0 0	250,000	S. Africa ...	
Spitzkop (New) *G*	11/16 ¾	⅝ ¾	1 0	—	1 0 0	99,070	Lydenburg	15, Bishopsgt-st, W
Stanhope ....*G*	⅜ ⅞	⅝ ⅞	1 0	1/- Sept 30 '96	1 0 0	34,000	Rand... ...	96, Gresham Ho., E
Sutherland R, ...*G*	2/ 3/	2/ 3/	1 0	—	1 0 0	220,000	Zoutpan bg	Dashwood Ho.
Tati Concessions ...	1⅛ 1¼	1 1⅛	1 0	rts Jy. 22 '95	1 0 0	392,000	—	Gresham House,
Trans. Coal Trust...	1⅜ 1⅝	1⅜ 1½	1 0	1/- Apr. 29, 96	1 0 0	439,965	Rand......	Broad-st. House, E
,, Consolidatd	1⅛ 1⅜	1 1¼	1 0	—	1 0 0	485,131	Transvaal	120, Bishopsgate st W
,, Est. & Dev.	11/16 13/16	11/16 13/16	1 0	—	1 0 0	428,600	,,	10, New Broad-st. E.C
,, Gold Fields	2¼ 3	2¾ 3	1 0	8/- Apr. 15 '96	1 0 0	135,000	S. A. R.	120, Bishopsgt.st. W
,, Land.........	¼ ⅜	5/16 7/16	1 0	—	1 0 0	79,915	Transvaal.	25, Abchurch Lane,
Treasury............*G*	1¾ 2	1¾ 1¾	4 0	12½% Sep.'91	4 0 0	135,000	Rand.........	Warnford Court,
United Exploratn.	⅜ ¾	3/6 4/6	1 0	—	1 0 0	250,000	—	120, Bishopsgate St.
,, Ivy Reef......*G*	¾ 1	¾ 1	1 0	/6 June 26 '96	1 0 0	45,000	Transvaal.	110, Cannon-street,
,, Langlaagte(N)*G*	½ ¾	½ ¾	1 0	—	1 0 0	146,000	Rand.........	85, Gresham Ho, E.C.
,, Mines Bultf. *D*	1 1⅛ nom.	1 1⅛ nom	1 0	1/ Aug. 28, '96	1 0 0	125,000	Kimberley	20, Bishopsgate St.
Van Ryn .... *G*	3⅛ 3¼	3⅛ 3⅜	1 0	4/- Jan. 18 '96	1 0 0	160,000	Rand.........	18, St. Swithin's-ln
,, North ...	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	116,091	—	,,
,, West......	1¾ 2	1⅜ 1⅝	1 0	—	1 0 0	120,000	Rand	,,
Vesta	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	130,000	Rand	Winchester House
Village Main Reef	4⅞ 5⅛	4½ 4¾	1 0	rts June 26 '96	1 0 0	177,000	,,	8, Old Jewry.
Vogelstruis Estate	3⅞ 4⅛	3¾ 4	1 0	—	1 0 0	200,000	,,	Winchester House,
,, Cons. Deep ...	1⅜ 1⅝	1⅜ 1⅝	1 0	—	1 0 0	327,750	,,	16, Geo. St. Mn. H
Wassau ....*G*	1⅛ 1¾	1⅜ 1⅝	1 0	—	1 0 0	100,000	Gold Coast	147, Cannon-street
Wemmer ....*G*	6⅛ 6¾	7⅜ 7⅝	1 0	10/ Apr. 29 96	1 0 0	55,000	Rand.........	19, Bury-street,]
Western Nigel......	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	207,000	Main Reef	Suffolk House,
West Rand.........*G*	1⅞ 1⅛	1⅛ 1¼	1 0	—	1 0 0	240,000	Rand.........	13, Geo. St., Man H
Willoughby's Con.	13/16 15/16	1⅛ 1¼	1 0	—	1 0 0	700,000	Mashonald	3, Copthall-bldgs,
Witwatersrand *G*	4 11/16 4 13/16	4 9/16 4 11/16	1 0	—	1 0 0	250,000	Rand.........	19, Bury-st., E.C.
Wolhuter ....*G*	4¾ 5	4⅛ 4¾	1 0	rts Apr 26 '94	1 0 0	130,000	,,	Warnford-court,]
Worcester ....*G*	3⅞ 4⅛	3⅞ 4⅛	1 0	3/- Aug. 28 '96	1 0 0	90,727	Rand.........	8, Old Jewry.]
Zambesia Explora.	1¾ 2	1⅝ 1⅞	1 0	—	1 0 0	65,000	Transvaal.	32-31, Clement's l

BRITISH MINES.

			£		£ s. d.	£		
Basset	17/ 18/	17/6 18/6	1 0	—	1 0 0	65,000	Cornwall	Redruth.
Blue Hills ......*CT*	2/ 2/6	2/ 3/	*	2/- May, '81	5 19 5	5,353	,,	Camborne.
Carn Brea & Tincr *T*	2/ 2/6	2/ 2/6	1 0	2/6 Dec., '93	22 8 5	—	,,	Carn Brea.
Devon Gawton *CA*	20/ 25/	15/ 20/	1 0	—	0 15 0	25,000	Tavistock	8, Finsbury circus
,, Gt Cons. *CA*	¾ 1	¾ 1	5 0	1/6 May '95	2 0 0	10,240	Devon ...	,,
Dolcoath ....*T*	16/ 18/	17/3 17/9	1 0	—	1 0 0	188,000	Cornwall	Camborne.
,, ...	7/ 8/	6/9 7/3	1 0	—	0 10 0	25,000	,,	,,
Drakewalls *CTM*	/6 1/	/6 1/	5/	—	0 2 0	61,856	,,	Dashwood House.
East Pool ......*AT*	20/ 21/	20/ 22/	*	1/6 Sept, '94	0 9 9	6,400	Cornwall	Illogan.
Great Laxey......*L*	1⅜ 1⅝	1⅜ 1⅝	4 0	5/- Apr., '92	4 0 0	15,000	I. of Man	Gresham House.
Halkyn	10 11	10 11	1 0	2/6 June 26'96	1 0 0	10,000	Flint	Chester.
Isle of Man ......*L*	5¾ 6¼	5 5⅛	5 0	3/- June 12 '96	5 0 0	11,600	I. of Man	,,
Killifreth ....*T*	—	—	—	—		—	Cornwall	
Leadhills ....*L*	1 1⅛	1 1⅛	6 0	2/6 Oct. 15, 96	6 0 0	20,000	Lanarksh.	Finsbury House.
Levant ....*CT*	3 3½	3 3¼	*	4/- Nov., '94	11 9 6	2,500	Cornwall	Penzance.
Polberro ....*T*	5/ 6/	4/ 5/	*	—	2 1 5	18,000	S. Agnes, Cl.	37, Walbrook.
South Crofty *TA*	⅛ ¼	1/ 1/5	*	—	17 10 6	5,769	,,	Pool, Cornwall.
Weardale ....*L*	2/	5/9	4 0	1/3 Oct. '90	1 10 0	60,000	Durham...	3, Lombard-court,
West Kitty ......*T*	2 3	2⅛ 3	*	2/- Dec, '94	1 2 0	6,000	Cornwall	37, Walbrook.
Wheal Agar ... *TA*	1/ 2/6	1/6 2/6	*	2/6 Aug. '88	23 15 2	8,000	,,	Redruth.
,, Friendly.. *T*	1/ 1/6	1/ 1/6	*	—	0 12 9	10,000	,,	2, Copthall Bldgs, E
,, Grenville *T*	3½ 4⅛	3⅛ 4½	*	3/- Nov 28 '95	18 2 0	6,000	,,	7, Union-court, E.C.
,, Kitty......*T*	4/ 5/	—	*	3/- Mar. '88	4 5 6	8,590	,,	Truro.
,, Metal & F. *T*	3/6 4/	3/ 3/6	*	—	0 3 0	60,000	,,	14 Broad-street Av

INDIAN AND ASIATIC MINES.

Balaghat Mysore *G*	/3 /9	/3 /9	1 0	—	1 5 0	160,000	India	6-7, Queen-street
Burma Ruby......*R*	11/16 13/16	11/16 13/16	1 0	—	0 18 0	298,370	Burmah...	Suffolk House, E.C
Champion Reef...*G*	7⅜ 7¾	7¾ 7⅛	1 0	4/6 Aug. 13 '96	1 0 0	211,645	India	6-7, Queen-street
Colar Central ...*G*	—	1/6	1 0	—	1 0 0	200,000	,,	Dashwood Ho., E.C
Coromandel...... *G*	2 2⅛	2 2⅛	1 0	—	1 0 0	120,000	,,	6-7, Queen-st.-pl
Gold Flds Mysore *G*	19/6 20/6	19/6 20/6	1 0	1/- July '92	1 0 0	220,000	,,	6-7, Queen-street
Kadur Mysore......	6/3 6/9	6/3 6/9	5/	—	0 5 0	400,000	,,	Copthall House, E
Kempinkote GdFd	1/ 1/6	1/ 1/6	5/	—	0 4 0	575,310	India	6-7, Queen-st-pl
Mysore .... *G*	7 9/16 7 11/16	7⅜ 7⅝	1 0	7/ Oct. 29 '96.	1 0 0	248,954	,,	6-7, Queen-street
,, Harnhalli ...*G*	—	-/6 1/-	1 0	—	0 18 6	100,007	,,	13, Copthall Ave
,, Reefs ...*G*	6/0 7/0	6/ 7/	1 0	—	0 19 6	160,000	,,	6-7, Queen-street
,, West(N) *G*	⅜ ⅝	⅜ ⅝	1 0	rts. Jan. 16 '96	0 19 6	127,408	,,	2, Gt. Winchester
,, Wynaad *G*	⅜ ⅝	⅛ ⅜	1 0	rts. Jan. 16 '96	0 19 6	125,000	,,	6-7, Queen-street
Nine Reefs ....*G*	6/6 7/	6/ 6/6	10/	—	0 3 6	250,000	,,	
Nundydroog.......*G*	3¼ 3⅜	3 5/16 3 5/16xd	1 0	2/- Nov. 12 '96	1 0 0	200,000	,,	
Ooregum (Dl.O.)*G*	2¾ 2⅞ xd	2¾ 2⅞	1 0	2/ Nov. 24 '96	1 0 0	145,000	,,	
,, (10% Pref.).	3 5/16 3 7/16 xd	3⅜ 3½	1 0	2/ Nov. 26 '96	1 0 0	107,011	,,	
,, (10% Pref.).	2⅜ 2⅝ xd	2⅛ 2⅜	1 0	2/ Nov. 26 '96	0 5 0	12,989	,,	
Pahang Kabang *T*	1/16 3/16	1/16 ⅛	1 0	—	1 0 0	200,000	Malay Pn.	4a, Jeffrey's Sq. E
,, Corp........	8/ 10/	8/ 10/	—	—	—	—	—	
Yerrakonda ......*G*	/3 /9	/3 9/	4/	—	0 5	187,491	Mysore ...	6-7 Queen-street

"THE MINING JOURNAL" SHARE LIST—(Continued)

AUSTRALIAN AND NEW ZEALAND MINES.

Name	Closing Price, Nov. 27, 1896	Closing Price, Nov. 20, 1896.	Am't. of Share	When last XD and Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Aladdin's Lamp G	2⅛ 2⅜	1⅞ 2⅛	1 0	2/ Sept. 30 '96	1 0 0	100,000	L'hoN.S.W	4-8, Throg. Avenue.
Angl-Cont. Corp	⅜ 1	¾ 1	1 0	100% '95	1 0 0	125,000	—	Worcester House.
" French Exp	⅜ ⅝ pm	⅛ ⅜ pm	1 0	3/ Sept. 30, 96	0 10 0	40,003	W. Austral	3, Princes Street.
" Ger. Explor.	⅜ ⅜ pm	⅛ ⅜ pm	1 0	5/ Oct. 20 '96	0 10 0	40,000	"	"
Anita ......G	11/16 13/16	11/16 13/16	1 0	—	1 0 0	100,000	N. Zealand	30, S. Swithin's Lane
Arrow Brownhill G	5/16 7/16	5/16 7/16	1 0	—	1 0 0	90,007	Cool., W.A.	4, Gt. Winchester St.
Assoc. Gold Mines	2 1/16 2 5/16	2 2⅛	1 0	bo June 26 '96	1 0 0	375,000	"	1, Queen Victoria-st.
Australasian ......G	3/6 4/6	3/6 4/6	1 0	-/6 Mar., '92	1 0 0	10,000	Gymp. Q'ld	6, Queen-st. place
Australian C	—	—	20 0	1/-July 30 '96	7 7 6	218,315	S. Austral.	42, New Broad-street
Aus. Bro. Hill Con.	/9 1/3	6/ 1/	1 0	1/- June, '91	0 19 3	574,799	BarR.NSW	Winchester House.
Baker's Creek ...G	⅝ ⅞	⅝ ¾	1 0	1/- May '95	0 17 6	500,000	H'gveNSW	Hillgrove, N.S.Wale.
Bamboo Queen & R	¾ 1	¾ 1	1 0	—	1 0 0	—	Pilb., W.A.	38, Coleman Street.
Bayley's Rew..rd G	2/6 3/6	2/ 3/	1 9	-/4 Dec. 94	1 0 0	480,000	Coolgardie	F'sb'y. H. Bl'mf'ld St.
Big Blow ......G	3/6 4/	3/6 4/6	1 0	—	1 0 0	150,000	"	151, Cannon Street.
Black Flag Consld.	5/16 5/16	5/16 ⅜	1 0	—	1 0 0	140,000	Coolgardie	4, Bishopsgte St. Wn
" Propty.	⅜ ⅜	¼ ⅜	1 0	—	1 0 0	600,000	Coolgardie	1, Metal Exch. Bidgs
Blagrove's Freehld	2/6 3/	2/3 2/9	2/6	—	0 2 6	500,000	Corom. NZ	Dashwood House.
Blue Spur and G. G	10/- 11/-	10/ 11/nom	1 0	3% Aug.13, '96	1 0 0	82,298	Otago, N.Z.	6-8, Great St. Helen's
Bonnie Dundee G	6/ 7/	6/6 7/6	1 0	—	0 19 0	120,000	C. T.Q'land	16, S. Helen's Place
Brilliant.........G	11/16 13/16	11/16 13/16	2 0	/4 Oct. 26, '96	2 0 0	250,000	"	Charters Towers.
" Block...G	13/16 15/16	⅞ 1	1 0	-/6 Dec. 16 '95	1 0 0	70,000	"	16, S. Helen's Place
" St.Geo.G	1⅜ 1⅜	1⅛ 1⅜ xd	10/	/9 Nov. 9, '96	0 10 0	72,000	"	Charters Towers.
Brit. Brok. Hill S	⅝ ⅞	11/16 13/16	1 0	—	1 0 0	240,000	N.S. Wales	Dashwood Ho., E.O.
Broad Arrow	1/ 2/	1/ 2/	5/	—	0 5 0	400,000	W.Feather	57, Moorgate Street.
Broken Hill Prop. S	2⅛ 2½	2⅜ 2⅛	8/	1/- Oct. 29, '96	0 8 0	960,000	N. S.Wales	3, Gt. Winchester st.
Brownhill Prouty.	⅝ ¾	⅝ ¾	1 0	—	1 0 0	67,500	Hannan's	4, Gt. Winchester st
Burbank's Birthd'y	1 7/16 1 9/16	1⅜ 1½	1 0	—	1 0 0	160,000	Coolgardie	Copthall House.
Cassidy Hill ......G	⅝ ¾	¼ ⅜	1 0	—	1 0 0	115,000	"	9-10, King Street, E.
Central Boulder G	⅜ ½	5/16 7/16	1 0	—	1 0 0	93,522	K'lg'rl.WA	Wor'st'r Ho., Walbr'k
" Exp. & Invst.	1/16 5/16 dis	7/16 5/16 dis	1 0	4'3d Mar 12'96	1 0 0	200,000	W. Austral	1, Met. Exchg. Bidgs
" " of W.A.	5/16 7/16	5/16 7/16	1 0	1/7½ Mar 27 96	1 0 0	122,000	"	2, "
Charters Tow. ...G	1/ 1/6	1/ 1/3	10/	—	0 9 8	200,000	Queenslnd	110, Cannon Street
Colonial Finance...	2 2¼ pm	1⅜ 2⅜ pm	1 0	10/ Mar. 27 '96	0 10 0	21,140	W. Austral	139 "
" Gold Fields	¾ 1	par ⅛ pm	1 0	—	0 12 6	75,250	"	70, Cornhill.
Con.G. M. of W.A.	5/16 7/16	¼ ⅜	1 0	—	1 0 0	246,779	Pilbarra ...	30, Moorgate Street.
" Murchison ...	5/16 7/16	5/16 7/16	1 0	—	1 0 0	225,533	Murc., W A	Broad Street House.
Consl. & W.A. Trust	⅜ ⅜	⅜ ⅜	1 0	—	1 0 0	104,467	W. Austral	"
Coolgardie Gold ...	¾ 1	¾ 1	10/	x.rts.Jun12'96	0 5 0	90,000	Cool.W.A.	Broad Street Avenue
" Mint & LEg.	1 1⅛	1 1⅛	1 0	—	1 0 0	150,000	"	30, S. Swithin's ln.
Cresus So. United	⅝ ¾	⅜ ⅝	1 0	—	1 0 0	115,000	Hann'sWA	Blomfield House
Crown United......	¾ 1	¾ 1	1 0	—	1 0 0	75,000	—	110, Cannon-st., E.C.
Day Dawn P.&W.G	11/6 12/6	11/6 12/6	1 0	-/6 Sept.16,'96	1 0 0	498,400	"	16, S. Helen's Place
" P.C. G	2/6 3/	2/6 3/	1 0	-/6 Apr. '92	1 0 0	490,000	"	Winchester Ho..E C
Eagle's Nest.........	13/16 11/16	13/16 15/16	1 0	—	1 0 0	2,500	Mt.Margrt	Finsbury House.
East Hauraki	1/6 2/6	1/6 2/6	5/	—	0 5 0	400,000	Haur'ki NZ	"
Explorers Synd. ...	⅛ dis ⅛ pm	⅛ dis ⅛ pm	1 0	2/6 April 29'96	1 0 0	9,000	W.Austral	Copthall House
Fingall R'fs. Extd	¾ ⅝	—	1 0	1/4 Jan. 16 '96	1 0 0	160,000	"	4, Sun Court
Florence...........G	11/16 13/16	11/16 13/16	1 0	—	1 0 0	60,000	"	18, St. Swithin's ln
Gibraltar Cons......	1⅛ 1¼	15/16 1 1/16	1 0	—	1 0 0	300,000	N S Wales.	6, Queen-street-place
Gladiator ....G	⅜ ¾	⅜ ¾		—	1 0 0	—	W. Austral	43, Threadneedle st
Gidrock .... G	/9 1/3	/9 1/3	10/-	—	0 8 6	450,000	N. Zealand	3-5, Queen-st, E.C.
Golden Cement G	7/16 9/16	7/16 9/16	1 0	—	1 0 0	175,000	W. Austral	3, Princes Street, EC
" Crown...G	1⅜ 1⅝	1⅝ 1⅜	1 0	—	1 0 0	100,000	"	54, Old Broad Street
" Gate......G	/9 1/3	/9 1/3	10/	—	0 10 0	150,000	Queenslnd	34-36, Gresham-st.
" Horse Shoe...	2 3/16 2 5/16	1 9/16 1 11/16	1 0	—	1 0 0	—	W. Austral.	13, Helen's Place
" Link......G	9/16 11/16	⅝ ¾	1 0	5/- Oct 30'95	1 0 0	90,000	•	9-10, King Street, E.C
" Plum......G	—	—	1 0	—	1 0 0	120,000	"	4, Bishopsgate Street
Gold Estates.........	1 9/16 1 11/16	1 9/16 1 11/16	1 0	3/ June 12 '96	1 0 0	80,000	"	20, Bishopsgte-st Wn
Great Boulder ...G	6 5/16 6 7/16	6 6¼ xd	1 0	5/ Nov. 12, 96	1 0 0	240,000	Yilgarn ...	3, Gracechurch st.
" " Junction	15/16 1 1/16	15/16 1 1/16	—	—	—		"	Worc. Ho., Walbrook
" " M'n R'fs	13/16 1 5/16	1⅜ 1⅜	10/	—	0 10 0	240,000	—	3, Princes Street.
" Fingall Rfs.	⅜ ⅞	¾ ⅜	1 0	6% Jan. 16, 96	1 0 0	175,000	Kurnalpi	Broad Street House
Graham Synd. ...	⅛ dis par	⅛ dis par	1 0	4/ &bo.Jul2'96	1 0 0	50,000	W. Austral	13-14, Abchurch ln
Hainault	¾ ⅝	11/16 13/16	1 0	—	1 0 0	70,000		82, Gordon st., Glas.
Hampton Gold Flds	⅜ ¾	⅜ ¾	1 0	—	1 0 0	—	—	9, S. Mildred's Ct.
" Gold Hill	2/9 3/3	/9 1/3	1 0	—	1 0 0		—	93-94, Gracechurch st
" Plains...	3 3⅛	3 1/16 3 3/16	1 0	rts May 14 '96	1 0 0	300,000	Cool. W.A.	29, S. Swithin's lane
" Plains Ex	5/6 6/6	4/6 5/6	1 0	—	0 18 0	180,000		Suffolk House, E.C.
Hannan's Brwn Hil	4 4¼	3⅜ 3¾	1 0	—	1 0 0	65,000	"	Broad Street House
" Devel'pm'nt	1 1⅛	1 1⅛	1 0	—	1 0 0	147,000	—	5, Moorgate-st.-bidgs
" Main Reef...	4/6 5/6	5/ 6/	10/	—	0 10 0	—	Kalg.W.A.	18, St. Swithin's ln.
" North........	5/16 7/16	¼ ⅜	1 0	—	1 0 0	51,107	"	33, Cornhill.
" 100 Acre......	⅜ ⅝	⅜ ⅝	1 0	—	—		"	Dashwood House.
" Oroya.........	1⅛ 1¼	15/16 1 1/16	1 0	—	1 0 0	—	"	1, Queen Victoria-st.
" Prop.	15/16 1 1/16	1 1⅛	1 0	—	0 10 0	—	—	139, Cannon Street.
" Reward... G	1⅛ 1⅜	1⅜ 1⅜	1 0	—	1 0 0	70,000	Hann.WA	Bartholomew Ho.
" Star...........	1 1⅛	⅞ 1	1 0	—	1 0 0	—	E.Coolgde.	Finsbury HouseE.C
Hauraki.......... G	16/6 17/	15/6 16/6	2/6	1/ Sept. 30 '96	0 2 6	320,000	Coromndl.	Dashwood Ho.; E.C
Herbert Gold	¾ 1	¾ 1	1 0	—	1 0 0	85,000	Cool., W.A.	39, Lombard street.
Hit or Miss	13/16 15/16	1 1⅛	1 0	—	1 0 0	120,000	"	1, Queen Vict. St.
Idaho ....GS	3/9 4/3	3/9 4/3	5/	-/6 Jan. 16 '96	0 4 8	143,439	W. Austral	Copthall House.
Kalsonga ....G	1/4⅛ 1/7⅜	1/4⅛ 1/7⅜	10/	—	0 9 9	249,250	Queenslnd	70-71, Bishopsgate st
Kalgurli.............	⅜ ⅞	⅜ ⅞	1 0	—	1 0 0	34,000	W. Austral	20, Threadneedle-st
Kapanga...........G	10/9 11/3	10/6 11/	1 0	rts May 24 '95	0 19 8	249,760	N.Zealand,	9, New Broad-street
Kathleen	3/3 3/9	2/9 3/3	2/6	—	0 2 6	600,000	Ha'raki,NZ	Dashwood House
" Crown ...	2/ 2/6	1/9 2/3	2/6	—	0 2 6	664,258	"	"
Kintore ....G	⅜ ⅜ dis	⅜ ⅜ dis	1 0	—	0 15 0	44,000	W. Austral	13, Abchurch lane.
Komata Queen......	3/3 3/9	2/6 3/	2/6	—	0 2 6	600,000	Ha'raki,NZ	Dashwood House,
" Reefs	14/9 15/3	11/ 12/	5/-	—	0 5 0	200,000	"	"
Kuaotuni Caledo'an	⅛ dis ⅛ pm	⅛ dis ⅛ pm	1 0	—	1 0 0	150,000	"	20, G. Winchester St
Kurnalpi.......... .G	3/ 4/	3/ 4/	1 0	—	—	—	Coolgardie	Throgmorton House
Lady Loch..........	13/16 15/16	1⅜ 1⅛	1 0	—	1 0 0	70,000	"	34-36, Gresham-st.
" Shenton	1 14/16 2 1/16	1 13/16 2 1/16	1 0	—	1 0 0	—	—	18, St. Swithin's ln
Limerick	⅜ 1	⅛ ⅜	1 0	—	1 0 0	52,537	Coolgardie	Leadenhall Buildgs.
Ln. & Con. Invest.	⅛ dis par	⅛ dis par	1 0	—	0 5 0	500,000	W, Austral	79, Queen Street.
Lon. & Globe Fin.	4 1/16 4 3/16	4 1/16 4 1/16	1 0	rts Mar. 27 '96	1 0 0	150,000	"	15, Austin Friars.
Londonderry......G	2/ 3/	2/6 3/6	1 0	—	1 0 0	467,000	"	1, Gt. Winchester-st.
L.&W. Aust. Expl.	1 1/16 1 3/16	¾ ⅞	1 0	4/-Nov 29 '94	1 0 0	270,100	"	Broad Street Ho.
Lon. W. A. Invest.	1 9/16 1 11/16	1¼ 1½	1 0	1/ Aug 13 '95	1 0 0	100,000	"	"
Mainland Cons. G	2⅛ 2¼	1¾ 1⅞	1 0	—	1 0 0	150,000	Murchison	64 Old Broad Street
Mawson's Reward. G	⅜ 1	13/16 15/16	1 0	—	1 0 0	60,000	"	28 & 29, S. Swithin's ln
Menzies Gold Mst.	7/16 9/16	9/16	1 0	—	1 0 0	—	"	Broad Street House
" Gold Reef	11/16 13/16	11/16 13/16	1 0	1/ June 24, '96	1 0 0	175,000	"	2a, Old Broad Street
" (O'Driscoll)	9/16 11/16	7/16 9/16	1 0	—	1 0 0	—	"	16, Tokenhouse Yard
Mills' Day Dawn G	⅜ ¾	9/16 11/16	1 0	-/6 Aug 29 '95	0 15 6	300,000	Queenslnd	16, S. Helen's Place
Mossman ....G	2/9 3/3	2/6 3/	1 0	—	0 19 0	195,000	N.S. Wales	Bishopsgate House
Mount Lyell.........	8 1/16 8 3/16	8 8⅛	3 0	rts June 26,'96	3 0 0	300,000	Tasmania	Finsbury House
Mount Margaret...	1 3/16 1 7/16	1 1/16 1 5/16	1 0	—	1 0 0	—	W. Austral	28, St. Swithin's ln.
" Morgan G	3 5/16 3 9/16	3⅜ 3⅛ xd	1 0	-/6 Nov. 12, '96	0 17 6	1,000,000	Queenslnd	9, Gracechurch-st.
" Rowe	⅛ ¾	⅛ ¾	1 0	—	1 0 0	75,000	Coolgardie	44, Coleman Street
Murchison N.Ch'm	3/6 4/6	5/6 6/	1 0	1/- Oct 30 '95	1 0 0	160,000	"	23, College Hill.
N. Hauraki Props	2/9 3/3	2/6 3/	5/	—	0 5 0	320,000	Ha raki, NZ	Dashwood House.
" Queen ......G	7/ 8/	7/ 8/	1 0	-/6 Sep 12 '95	0 13 6	158,915	Queenslnd	71-72, King Wm. St.
" Z. Jubilee	¾ ⅛	¾ ⅛	1 0	—	1 0 0	100,000	UTh'm'sNZ	20, Gt. Win. St.
Norseman	1⅜ 1⅛	1⅛ 1⅜	1 0	—	1 0 0	200,000	Dundas ...	30, S. Swithin's lane
North Boulder......	¾ 1	¾ ⅞	10/-	rts July 15, '96	0 10 0	—	W. Austral	18, Helen's Place
" Coolgardie ...	/6 1/	/6 1/	5/	—	0 4 0	400,000	Pilbarra ...	226, Winchester Ho.
" Kalgurli	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	—	—	11, Abchurch lane
Omnium G M Assoc	—	⅜ ⅞	1 0	—	1 0 0	80,000	—	Broad-street House
Paddington Cons.	1⅛ 1¼	1 1/16 1 3/16	1 0	—	1 0 0	75,000	W. Feather	77, Bishopsgate-st.
Pambula	⅞ 1	⅞ 1	1 0	—	—	100,000	N. S.Wales	45-46, Broad St. Av'e
Pilbarra G. F.	⅜ ⅝	7/16 9/16	1 0	2/ May 14,' 96	1 0 0	100,000	Pilb, W. A.	38, Coleman-street.
Premier Pt. Prop.	2/9 3/3	2/9 3/3	5/	—	0 4 8	400,000	Coro. N.Z.	Dashwood House
Ramage Syndicate	13/16 15/16	1 1⅛	1 0	£2&rts F.13 96	1 0 8	50,000	W. Austral	4, Bishopsgate-st.
Royal Oak	2/6 3/	2/ 2/6	5/-	—	0 5 0	400,000	Ha'.aki,NZ	Dashwood House.
" Sovereign ...	1 1⅛	1 1¼	1 0	—	1 0 0	60,000	Coolgardie	8, Old Jewry, E.C.
Sherlaws	8/ 9/	8/ 9/	1 0	—	1 0 0	85,000		Broad Street Avenue
Scottish Australian	5/16 7/16	¾ ⅜	1 0	-/3 Aug., '96	1 10 0	200,000	N. S. Wales	Winchester Ho. E.C.
Scotty's Hauraki...	2/9 3/3	2/6 3/	5/0	—	0 5 0	330,000	Ha'raki,NZ	63, New Broad-street
Southern Star	1/3 1/9	1/3 1/9	2/6	—	0 2 6	600,000	Coro. N.Z.	63-4, New Broad-st.
South Kalgurli ...	⅛ ¾	⅛ ⅜	1 0	—	1 0 0	60,000	W. Austral	20, Great Win. St.
Stray Shot & Excl	¾ ⅜	⅜ ¾	2/6	—	1 10 0	—	Pilb., W A	30, S. Swithin's lane
Success	2/3 2/9	2/3 2/9	2/6	—	0 2 6	400,000	Coro, N. Z.	Dashwood House,
Taitapu G. Estate	3 1/16 3 3/16	2 15/16 3 1/16	1 0	—	1 0 0	125,200	Nelson, NZ	9, S. Mildred's Court
Tavern Creek	7/ 8/	7/ 8/	10/	—	0 8 0	160,000	Ha'raki,NZ	Dashwood House,
Thames Hauraki...	⅜ 1	⅜ 1	1 0	—	1 0 0	200,000	"	54, Old Broad Street.
Triton of Hauraki	2/ 2/6	2/ 2/6	5/-	—	0 5 0	530,000	"	63, New Broad St.
Town Prop. of W A	13/16 1 1/16	13/16 1 1/16	1 0	—	1 0 0	250,000	W. Austral	28-9, S. Swithin's-ln
Triumph	3/ 4/	3/- 4/-	5/	—	0 5 0	400,000	Ha'raki,NZ	Finsbury House.
True Blue	¾ ⅜	¾ ⅜	1 0	—	1 0 0	—	"	Dashwood House.
Union Waihi	par ¼ pm	par ¼ pm	1 0	—	0 10 0	141,250	Tham's,NZ	11, Abchurch Lane
Victor Waihou ...	3/6 4/6	3/6 4/6	10/	—	0 10 0	340,000	K'rghk'NZ	63, New Broad St.
Victory (C.T.)...G	5/6 6/6	5/6 6/6	5/	—	0 3 10	40,000	Queensl'nd	32, Gresham-st. E.C.

AUSTRALIAN AND NEW ZEALAND MINES—(Continued).

Name.	Closing Price, Nov. 27, 1896	Closing Price, Nov. 20, 1896.	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Waihi............... G	7¼ 7⅜	6⅞ 7⅛	1/	rts Oct 15,'96	1 0 0	180,000	Th'ams NZ	11, Abchurch-ln. E.C
" G. Junction...	1 1/16 1 3/16	1 1 1/16	1 0	—	1 0 0	110,000	U ThmsNZ	12, Finsbury Circus
" Silverton	15/16 1 1/16	⅞ 1⅛	1 0	—	1 0 0	60,000	Oh'n'miNZ	23, College Hill
Waitekauri	4⅛ 4⅜	4⅛ 4⅜ xd	1 0	1/ Nov 12, '96	1 0 0	136,000	WKauriNZ	11, Abchurch Lane.
" Central	7/3 7/9	7/3 7/9	10/-	—	0 7 6	130,000	"	63, New Broad St.
" Cross	1 1/16 1 3/16	1 1/16 1 5/16	1 0	—	1 0 0	130,000	"	19a, Coleman Street
" Extended ...	9/ 10/	8/6 9/6	10/	—	0 10 0	130,000	Ha'raki,NZ	63, New Broad St.
" United	½ ⅝ pm	¼ ⅛pm	1 0	—	1 0 0	50,000	"	Finsbury House.
Waratah............ G	9/6 10/6	9/ 11/	10/	—	0 10 0	100,000	Crydn, N Z	43, Threadneedle st
Water Trust Min.	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	120,000	W. Austral	Broad Street House
W. of Nations......	⅞ 1	⅞ 1	1 0	—	0 15 0	—	—	77, Bishopsgate-st.
Wentworth . . . . G	9/16 11/16	⅜ ½	1 0	1/- Apl 15 '96	1 0 0	500,000	N. S Wales	4-6, Throgmort. Av.
W. A. Develop's.	⅞ 1⅛	⅞ 1⅛	1 0	rts May 14 '96	1 0 0	50,000	—	49-53, Moorgate court
" G. Conces.	⅜ ⅞	¾ 1	1 0	2/6 Sept 16'96	1 0 0	£55,000	W. Austral	33, Old Broad st., EC
" Ex. & Fin.	4 1/16 4 3/16	4 1/16 4 5/16	1 0	rts Mar. 27 '95	1 0 0	200,000	"	54, "
" Gold Fields	6⅛ 6⅜	5⅜ 5⅝	1 0	6/- July 30 '96	1 0 0	65,000	Coolgardie	28-29, S. Swithin s.ln
" Mines Devl.	⅝ ⅞ pxd	1⅛ 1⅜ pm	1 0	10/ Nov. 26 95	0 15 0	40,000	W. Austral	3, Princes Street
" Mining	5/ 6/	5/6 6/6	5/	7½d.Mar.27'96	0 5 0	320,000	"	257, Winchester Ho.
" Pioneer	¾ 1 pm	1 1½ pm	1 0	10/ June 12 96	0 15 0	19,993	"	139, Cannon-street.
" Share Corp.	¼ ⅜pm	⅛ ⅜pm	1 0	—	0 10 0	200,000	"	28, St. Swithin's ln
" Venture......	⅜ ⅞pm	⅜ ⅞ xd	1 0	5/ Nov. 12 '96	0 15 0	—	"	3, Princes Street.
West Boulder	⅜ ½	⅜ ½	—	—	—	—	—	
White Feather ...	1¼ 1⅞	1⅛ 1⅜	1 0	—	1 0 0	60,000	Coolgardie	28 & 29, S. Swithin's ln
Woodstock	2 5/16 2 7/16	2¼ 2⅜	1 0	—	1 0 0	150,000	KrnghkNZ	6, Drapers Gardens.
Zeehan Montana S	par	par	1 0	-/8 Oct. 15, 96	1 0 0	66,000	Tasmania	11, Queen Victoria st
" " ...	—	—	1 0	-/8 Oct. 15, 96	0 12 6	12,000	"	"

EUROPEAN MINES.

Name	Closing Price, Nov. 27, 1896	Closing Price, Nov. 20, 1896	Am't. of Share £	When last XD and Dividend	Called up Per Share	Amount of Stock or No. of Shares Issued	Situation of Mine	Head Office
Alamillos L	1⅛ 1¾	1⅛ 1¾	2 0	2/- Sept 16 '96	2 0 0	35,000	Spain	6, Queen-street-place
Consett Ore	7⅛ 7⅜	7⅛ 7⅜	1 0	5/- July 94	1 0 0	55,200	Spain	19, Grey-st, N'castle.
Fortuna L	⅞ 1⅛	⅞ 1⅛	2 0	1/3 Sept 16 '96	2 0 0	25,000	Spain	"
Libiola...............C	1⅞ 2⅛	1⅞ 2⅛	5 0	2/- Sept. 30 '96	5 0 0	60,400	Italy	Dashwood Ho., E.C.
Linares L	6 6⅛	6 6½	3 0	10/ Sept 16 '96	3 0 0	14,998	Spain	6, Queen-street-place.
Mason & Barry...C	3⅛ 3⅜	3 3¼	5 0	2/ May 23 '94	5 0 0	185,172	Portugal	87, Cannon-street.
Pestarena ....G	5/ 6/	5/ 6/	3 0	—	3 0 0	67,809	Italy	6-7, Queen-street-pl.
Pontgibaud ....SL	—	—	20 0	11/6 Dec. '96	20 0 0	14,000	Coueron...	"
Rio Tinto C	24¾ 25	25 25¼	10 0	18/-Nov. 3 '96	10 0 0	325,000	Spain	30, St. Swithin's-lane
" (1st Mrt. Bds)	101 103	102 104	100 0	4% Oct. 1, 96	100 0 0	£3600,000	"	"
Ripanji ....SQ	—	—	1 0	—	0 19 0	95,000	Servia......	120, Bishopsgt-st. Wn
Tharsis.........C Sul	5⅞ 6⅛	5⅞ 6⅛	2 0	7/- Apr 29 '96	2 0 0	625,000	Spain	Glasgow.
West Prus Pre.pref	—	—	10 0	3% June 30 '96	10 0 0	1,500	Germany	Walbrook Ho., E.C.
" Prussian Pre.	—	—	10 0	8% June 30 '96	10 0 0	5,450	"	"
" Prussian Or.	—	—	1 0	4% Dec. 31, '95	10 0 0	14,050	"	"
Wohlfahrt L	—	—	1 0	3% Dec. '94	1 0 0	99,634	Prussia ...	17, Victoria-st., S.W
"	—	—	1 0	3% Dec. '94	0 10 0	9,090		"

NORTH AMERICAN MINES.

Name	Closing Price, Nov. 27, 1896	Closing Price, Nov. 20, 1896	Am't. of Share	When last XD and Dividend	Called up Per Share	Amount of Stock or No. of Shares Issued	Situation of Mine	Head Office
Alaska Mexican...G	1¼ 1⅜	1¼ 1⅜	$5	4 4-5d Oc. 28 96	$5	173,500	Alaska......	30, St. Swithin's-ln.
" Treadwell G	4⅜ 5	4⅜ 5	$25	1/6 Oct. 28, '96	$25	200,000	"	" "
Anaconda C	6 6¼	6 5/16 6 7/16	$25	5/1⅛ Nov. 3 '96	$25	1,200,000	Montana...	" "
Arizona (Pref.) Cu	54/9 55/	54/ 54/6	4 0	1/6 July15,'96	4 0 0	158,920	Arizona ...	74, Geo.-st., Edinbor
" 6½ A Deben.	109 110	107¾ 108 xd	100 0	6½% Nov.12'96	100 0 0	£135,300	"	
" 7% B Deben.	96½ 97	97 xd	100 0	7% Nov. 12 '96	100 0 0	£181,300	"	
De Lamar.........GS	11/ 12/	11/ 12/ xd	1 0	1/- Nov. 12 '96	1 0 0	400,000	Idaho	6, Drapers-gardens.
Doric..................G	5/6 6/6	5/6 6/6	5/	—	0 5 0	125,000	Colorado...	Broad Street House.
Gen. M'g. Assoc. ...	5⅛ 6	5¼ 6	5 10	12/-May 14 '96	5 10 0	27,469	C. Breton	Blomfield House.
Golden Feather G	⅛ ¼	⅛ ¼	1	—	1 0 0	180,000	California	8:, Stephens Cs E.C
" Gate ......G	3/6 4/6	3/6 4/6	1	—	0 19 6	79,600	"	
" Leaf...... G	/9 1/3	-/9 1/3	1 0	—	1 0 0	300,259	Montana	6, Draper's Gardens
Hall Mines	1 1/16 1 3/16	1 3/16 1 5/16	1 0	—	1 0 0	250,000	Brit. Col.	1, Leadenhall St., EC
Harquahala... .. G	2/ 2/6	/6 1/6	1 0	-/6Nov.14,'94	1 0 0	300,000	Arizona ..	6, Draper's Gardens.
Holcomb Valley G	/3 9/	/6	5/	—	0 5 0	540,000	California	14, Cornhill, E.C.
La Yesca ....GS	—	—	1 0	—	1 0 0	200,000	Mexico ...	20, Bucklersbury, EC
Montana........ GS	3/9 4/3	3/6 4/-	1 0	-/3 June 26'96	0 19 0	657,158	Montana	Gresham House, E.C
Palmarejo ......GS	1/ 1/6	1/- 1/6	1 0	—	1 0 0	418,888	Mexico ...	32, Old Jewry, E.C.
PinosAltos(Dl)GS	—	—	1 0	-/6 Mar.' 90	1 0 0	100,000	"	110, Cannon-street.
Richmond ...GSL	⅝ ⅞	⅝ ⅞	5 0	1/- Dec. 16 '95	5 0 0	54,000	Nevada ...	44, Coleman street.
Sierra Buttes ...G	⅛ ⅜	⅛ ⅜	2 0	-/3 Apr. 29 '96	2 0 0	122,500	California	138, Leadenhall-st.
" Plumas Eur. G	¼ ⅛	¼ ½	2 0	-/6 Oct. 29 '95	2 0 0	140,265	"	"
Springdale.........G	/3 /9	-/3 -/9	$1	-/2 Sep. 28, 9	$1	1,000,000	Colorado	20, Abchurch Lane
Twin Lake Placers	⅞ 1	1⅛ 1⅜	1 0	3/- Feb. '95	1 0 0	6,000		5, Lawrence P. Hl, E

SOUTH AND CENTRAL AMERICAN MINES.

Name	Closing Price, Nov. 27, 1896	Closing Price, Nov. 20, 1896	Am't. of Share	When last XD and Dividend	Called up Per Share	Amount of Stock or No. of Shares Issued	Situation of Mine	Head Office
Anglo-Chilian PfN	8¼ 8¾	8¼ 8¾	10 0	7/0 Feb. 27 96	10 0 0	35,000	Antofagst.	123, Bishops,-st W
" 4½ Rylst MB	88 91	88 91	100 0	4½% Nov 3 '96	100 0 0	£410,5.0	"	
Argen.Concessions	—	—	2/	—	0 2 0	150,000	S. Luis ...	3 & 5, Queen Street.
Caylloma............S	¾ ⅞	13/16 15/16	2 0	1/- Apr. 94	2 0 0	125,000	Peru	52, Leadenhall strde
Colorado Nit. ...N	¾ 1¼	¾ 1¼	5 0	2/6Dec.16,'95	5 0 0	32,000	Chili	12, King-st., Liverp'l
Colombian Hy...G	5/16 7/16	5/16 7/16	1 0	1/- Jy 26, '95	1 0 0	75,000	Colombia	10, Blomfield-street
Copiapo C	1¾ 2	2 2¼	2 0	2/ May 29, '96	2 0 0	100,000	Chili	DashwoodHouse, E.C
Darien "A" ......G	5 5¼	4⅜ 4⅞	1 0	—	1 0 0	49,553	Colombia	Manchester.
" "B"	6¼ 6½	5⅜ 6	1 0	x.nwApr 29'96	1 0 0	30,000	"	"
El Callao ....G	⅛ ⅜	⅛ ⅜	5 0	9½d. Feb. '91	5 0 0	257,600	Venezuela	8, Bishopsgt.-st, Wn
Frontino & B....G	1⅜ 1½	1⅜ 1⅜	1 0	9d. Oct. 15 9t	1 0 0	128,662	Colombia	184, Gresham House
Glenrock ....G	/9 1/3	/9 1/3	1 0	—	1 0 0	198,948	Arg. (& I.)	3-5, Queen-street, E.C
Guadalupe ......GS	3/6 5/	—	1 0	—	1 0 0	120,000	Honduras	1a, Union ct. Old Brd
Java'l ....G	—	—	2/-	—	0 2 0	105,269	Nicaragua	139, Cannon-street.
Lagunas ....N	2⅛ 2⅜	2¼ 2⅝	5 0	15p.c.Dec.'94	5 0 0	120,000	Tarapaca	3, Gracechurch st;
Lautaro ....N	5¾ 6¼	5¾ 6¼	5 0	5/- June 26 '96	5 0 0	110,000	Chili	70, "
Liverpool ....N	8 8⅜	7¾ 8¼	5 0	10/-Nov,28, 96	5 0 0	22,000	"	Liverpool.
London Nit.........N	2 2⅛	2 2⅛	3 0	3/4¾ Nov. '95	5 0 0	10,000	"	9, Gracechurch-st.
" Nit.(Pref.)	3⅜ 4	3⅛ 4	5 0	8% Nov. 28'95	5 0 0	22,000	"	"
New Julia.......... N	1/16 3/16	1/16 3/16	—	—	—	—	—	
" Tamarugal N	1/16 3/16	1/16 3/16	1 10	1s. Dec. '94	1 10 0	130,000	Tarapaca	50, Lime-street, E.C
" 8% Cum Pref	¼ ⅜	5/16 7/16	1 10	8 p.c. Feb. '95	1 10 0	130,000	"	"
" 6 p.c. Debs ...	77 81	77 81	100 0	6 p.c. Feb. '96	100 0 0	£260,000	"	"
Nueva Esperanza	/6 1/	/6 1/	5/	—	0 5 0	160,000	Colombia	5, Copthall Bu'ld'ngs
Pac. & Jazpampa N	11/16 13/16	11/16 13/16	5 0	4/- May, '95	5 0 0	72,000	Tarapaca	3, Gracechurch-st.
Phoenix	/9 1/3	-/9 1/3	10/-	—	0 8 0	400,000	S. Luis ...	3 & 5, Queen Street.
Rosario ....N	4¼ 5¼	4¼ 5¼	5 0	3/- Aug.13 '96	5 0 0	120,000	Chili	7¼ Old Broad-street
" (5% Deb.)	102 105	102 105	100 0	5% Oct. 1 '96	100 0 0	£475,000	"	
" Hu'r'Db Scrp	103 106	103 106	100 0	5% July 1 '96	100 0 0	£200,000	"	"
St. John del Rey G	11/16 13/16	11/16 13/16	1 0	x.rtsNov 13 '95	1 0 0	327,650	Brazil	Finsby.Ho., Blmf'd st
San Donato ... ...N	⅜ 1⅛	⅜ 1⅛	5 0	2/6 May 24 '95	5 0 0	32,000	Chili	12, King-st., Liverp l
" Jorge ....N	4¼ 5¼	5 5⅜	5 0	5/ Oct. 15 '96	5 0 0	75,000	"	9, Gracechurch-st
" Pablo ....N	1¼ 1⅛	1¼ 1⅛	5 0	5/-Oct. 30 '95	5 0 0	22,000	"	
" Sebastian ...N	⅜ 1	⅜ 1	5 0	4/ July 15 '96	5 0 0	29,000	"	Dashwood House E.C
Santa Barbara ...G	⅛ 5/16	⅛ ⅜	10/	1/3 Dec. '86	0 10 0	50,000	Brazil......	Liverpool
" Elena ......N	⅛ ⅜	⅛ ⅜	5 0	5/-Nov. 15 '94	5 0 0	22,000	Tarapaca	3, Gracechurch-st.
" Rita ......N	3⅛ 4	3⅜ 4	5 0	10/May 29 '96	5 0 0	20,000	Chili	DashwoodHouse, E.
Tolima "A" ......S	5¼ 5¾	5¼ 5¾	0	5/-Mar. 12 '96	5 0 0	14,000	"	18, Finsbury-circus
" "B" ......S	3⅜ 4¼	3⅜ 4¼	0	5/- Mar 12 '96	5 0 0	6,000	"	

CORRESPONDENCE.

We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.

UMTALI RAILWAY.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—As there seems so much doubt, locally, as to whether we shall shift over to the new township site or not, perhaps a few of the *pros* and *cons*, as gathered from several years' study of the whole question, will not be out of place here.

At the first meeting here, between the managing director of the Chartered Company and the townsfolk, with regard to the proposed removal of the townsite, it was arranged that a full survey of the gold belt route for the railway would be made, as well as the Manini route; and it is not quite clear why this has not yet been done.

If the gold belt route is adopted, it will not be necessary to move Umtali; and, moreover, there will be the several other advantages which are detailed below. In fact, the only reason advanced for taking the railway outside of the gold belt is, that the Manini watershed is about 800 feet lower than the Zambesi shed, and that the route to the interior should not be handicapped by this 800 feet.

Now, in the first place, on the route from Beira to Salisbury (and the interior) there are no less than six distinct rises, each of over 800 feet, which must be surmounted in any case, so that it does not matter very materially whether there is one more or less such rise.

But it so happens that, although the total difference in level between the lowest point of the Manini watershed (south of the gold belt) and the same point of the Zambesi shed (right in the middle of the belt) is about 800 feet, yet the actual difference of level between the two railway routes need not be more than 600 feet.

The reason for this is as follows:—The route up the Manini Valley to the new site does not pass over the lowest point of the neck, and it is very significant, therefore, that difference of level is not the only reason for this route being adopted, although it is the only nominal one; and also a very short tunnel under the lowest point of the Zambesi watershed will reduce the distance still further, the gain being altogether about 200 feet, thus making the real difference only 600 feet

These figures are only from approximate measurements, but they are quite near enough for the purpose.

Now, one 600 feet rise, out of a series of rises amounting to a total of several thousands of feet, is not of much account anyway, but Umtali would not handicap the rest of the country, by even this small amount, were it not that the saving of this one small item would handicap the whole of the Manica gold belt to an absolutely disproportionate extent.

To what an extent is probably hardly realised by anyone who has not travelled over the whole country.

The Manini route passes no less than 7 miles away from the chief series of reefs of the belt, and this too is a minimum, for many thousands of claims will still be more than 10 miles away from either junction. It does not need my personal statement to prove this; a glance at the map will verify it to the most casual observer.

Whilst, on the contrary, the Zambesi route goes right through the middle of the belt for no less than 50 miles, passing within a mile of the great majority of the claims.

Surely the loss of the 600 feet rise is over and over again compensated for by the saving in the transport of thousands of tons (even millions of tons in the far future) over the difference between 1 mile and 10 miles?

In a future paper I hope to give the value of these differences expressed in £ s. d., and it will be found that for every penny that the rest of the country gains by the Manini route, the Manica district will lose nearly as many pounds.

To sum up:—

(1) The Zambesi route is only 600 feet higher than the Manini.

(2) The distance is no greater, in fact, from the fewer number of kloofs in the Zambesi route, it will probably be actually shorter, thus benefitting the rest of the country as well as Manica.

(3) The gold belt route passes within 1 mile of many thousands of gold bearing claims, whilst the Manini route is from 7 to 10 miles distant from the same.

(4) The survey can be completed before the rails can be laid to the Revue, and thus the time of the opening of the railway need not be delayed.

(5) Umtali need not be shifted, and the £40,000 compensation need not be paid.

(6) The minds of English investors will not be unsettled by this constant moving.

(7) In conclusion, Sir, there is ample time to have the Zambesi route surveyed before we shift, and the authorities should be urgently requested to have this done at once.

Since writing the above, I learn that it is the intention to serve the Eastern Penhalonga series by a junction railway from Macequece, and the western series by a junction rail from the Odzi; whilst the new township is to be connected with the mines by a road only over Christmas Pass, instead of a railway.

Now, if this does take place, what will be the result?

Of the total traffic and business of the Manica gold belt, the new township (outside the belt) will get not more than 20 per cent., leaving the balance of 80 per cent. to be shared by the Macequece and Odzi townships.

If, on the other hand, we have the Zambesi route, leaving Umtali where it now is; or, if we can have a guarantee that the gold belt will be served by a junction railway at New Umtali (over Christmas Pass), then we may look forward to a prosperous town, having at least three-fourths of the profits which are to be made here out of our mines.

If a railway committee, duly appointed by a public meeting, were to act in the matter, they could communicate with the authorities without delay. R. S. FAIRBRIDGE.

Umtali, August 4.

THE EDUCATION OF MINING EXPERTS.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—I have read with much interest your articles upon the education of mining engineers, and whilst entirely agreeing with much of what you say, I do not think that you do full justice to our mining colleges. After a considerable experience of the graduates of the various countries, I have no hesitation in saying that the education which an aspirant to the profession of mining engineering receives in the better mining colleges of Great Britain is quite equal to that obtained in Germany, as far as turning out a practical man is concerned. Whilst we have institutions like the Royal College of Science, in London, like the Camborne School of Mines in the heart of Cornish mining, like the Durham College of Science (where I have the honour of teaching) in the centre of an important coal field, with the lead mines of the Tyne and Wear on the one side, and the ironstone mines of Cleveland on the other within easy reach, I do not see that the position of any foreign college or University offers better facilities for learning mining as thoroughly as it can be learnt at a college.

Here, however, is the *crux* of the matter, and it is in this respect that I think you do the mining colleges scant justice; it is impossible to teach any student at a college to become a mining engineer or a mine manager. All that the college can do, and all that it can honestly pretend to do, is to give a training in the theory of mining and in the cognate sciences, that shall form a secure basis for the engineering abilities to be subsequently developed in practical work. This, I maintain, is the reason why Americans or Germans are preferred to Englishmen for mining posts abroad: not because their college training is inferior, but because there is, practically, no metal mining left in Great Britain, where men who desire to become mining engineers can get their practical knowledge. It is not in college training, but in the equally important post-collegiate training that our men are deficient; and I have no hesitation in asserting that those of the students at our mining colleges, who, after having there acquired their theoretical knowledge, are content to go abroad in a very subordinate capacity, and thus gradually to work up their practical knowledge and accumulate experience, will have no difficulty in holding their own with mining engineers educated in any part of the world.

I do not, of course, pretend to say that our mining colleges are all they should be, but I do not think that they should be made to bear all the blame of the essentially vicious system under which directors, ignorant of mining, are allowed to appoint inexperienced students fresh from college to important posts, because they are cheap, or because they are distantly related to the Chairman, or for some other equally cogent reason.—I am, Sir, yours obediently,

HENRY LOUIS, M.A., A.R.S.M., &c.

The Durham College of Science, Newcastle-upon-Tyne, November 23.

GOVERNMENT AID FOR THE MINING INDUSTRY OF CORNWALL.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—To prove the great necessity for Government aid for the mining industry of Cornwall, some of the far reaching effects of such aid should be set out.

There is one great increasing necessity to establish the existence of great bodies of mineral existing deeper down the now abandoned mining districts, which have produced millions sterling value of copper, lead, and other minerals.

The lodes or veins do continue in their downward course unaltered except that they have become barren for mineral, and private enterprise has ceased—the districts forsaken, consumptive power lost, agricultural depression set in, trade of towns destroyed, and prevailing wants.

The matter is an Imperial one, inasmuch as national wealth is constituted in mineral productions. This applies to nearly every country in the world. France, with its great agricultural wealth, being the exception, no agricultural depression can exist where the demand for its produce equals or exceeds the production.

Our Cornish mines—now employing some 8000 persons—re-established would again employ 40,000 persons; this would be further extended when such increase for industry existed.

It would be a small matter for our Government to select mines out of one of our great mineral districts now dormant, and carry out a deep development for a mile or two below the lowest point ever attained in these districts.

The great problem solved of deeper bodies of mineral resulting from the Government operation would set private enterprise again in vigorous motion, and the Government would find that any expenditure they had made would reflect back a hundredfold to this country, by increased general prosperity of the people, a restoring of inhabitants to now desolate districts, improved trade and agriculture.

I would suggest for the purpose of arriving at a determination as to the most suitable district for development—the Caradon Hills—in and around which vast stores of copper, lead, silver, and other rich minerals have been taken by private enterprise; but at this time it is an almost barren waste.

Here a shaft of great dimensions should be sunk as deep as any appliances would permit being done.

The Government Inspector would control the engineers who carried out the operations. The shaft would pass through veins and lodes in going downwards, and if one or two miles, or more, of depth was determined on, we have mining engineers and mechanical contractors who would, under the Government, carry out the work.

Great bodies of mineral at these unknown depths, once reached, would by private enterprise be laid open in other now deserted mineral districts of Cornwall and other parts of the United Kingdom.

The work of the Government having been accomplished, a great source of increased national wealth would be established, great towns be relieved of congested population, and the general improved well-being of Her Majesty's subjects brought about.

I trust this great national matter will be taken up by abler men, grasping the great beneficial consequences the United Kingdom would enjoy by the Government granting aid to the mining industry of Cornwall.—I am, dear Sir, yours very obediently, R. H. WILLIAMS, C.E., F.G.S.

Cuddra, St. Austell, November 26.

MINING IN CARDIGANSHIRE.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—Some of the mines have restarted, and others are about doing the same. I have to mention the names of a few mines in the Ponterwyd district, which for many years were amongst the best in the county. At the 11th milestone may be seen the old Clara Mine, which I began to work after 60 years of rest, by sinking a new engine perpendicular shaft, now in existence, to cut the lode at the 60 fathom level. When at 20 fathoms deep a crosscut north was driven 20 fathoms, where we met the lode—one of the finest lodes I ever saw. A level was driven to the west for a number of fathoms, and the shaft continued being sunk to different levels of 10 fathoms each, until it should have met the lode at the 60 fathom. But this it never did, although now within a few feet, of not inches, of the desired spot. This I began in 1851, and in 1858 I had to go to the County of Flint, where I remained until 1866, returning here in that year when I found the mine under the management of others. And in after years, when the price of lead dropped so very much, this as well as other mines in the district ceased working, as they thought, for a time, until the old price might again crop up; it never has as yet, and thousands of pounds' worth of mineral have been sent from the mine. And no doubt when the shaft shall have met the lode thousands of pounds may be made out of this good property. To the west of this mine is the celebrated Powell United Mine, which my late father began early in the sixties, and until within the last few years had kept on working, but here the waiting for better times induced the proprietors to wait a little for that which never returned. Again, further west, we come to the Cefn Cwmbryno Mine, which began early in the forties, worked for some years by Messrs. John Taylor and Sons, also by several companies since; the great quantities of mineral sent from here needs no comment from me. I am writing now and including the mines mentioned, with the intention of bringing the whole (one time three properties) now into one united property, offering the same to any mining company who may feel inclined to go into one of the best and richest lead properties in the county, if not of the principality. It is all on one and the same lode; it covers near 3 miles in length; the Highway goes through the properties from the 11th mile down westward near to the 8th mile; it is beautifully supplied with rivers and lakes, and with everything that may ensure a profitable and good paying concern. In the Cwmbryno Mine a deep adit level was started from the surface, and has been driven in through the property for a great length; and as the present end is near 70 fathoms from surface and by continuing the driving of this level into and through the other two mines, would be near 100 fathoms from surface, so that by sinking the several shafts on those mines, it would by-and-bye drain the whole district, and require no longer the enormous quantity of pumps, rods, bobs, &c., as are in so great demand in all mines which are not favoured with an adit. I shall be very pleased to answer any person, or persons, who may feel disposed to go into the matter, and to give any information within my power or knowledge.—I am, Sir, your very obedient servant,

SAMPSON TREVETHAN, Consulting Mining Engineer.

Capel Bangor, Aberystwith, November 25.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—This industry, owing to the very depressed state of the metal market, has been in abeyance for a considerable period, but now that prices are advancing many enquiries are being made for lead and blende properties, and it is gratifying to learn that an influential company is being formed for further developing the Cwmystwith group of mines, and recent trials made from the side of the mountain have developed a lode fully 4 feet wide of solid blende, and there is every prospect of this property proving a great success to the shareholders.

To the north-west of Cwmystwith is the Frongoch Mines, which are selling immense quantities of lead and blende ores, and giving good profits to the fortunate proprietor.

Bryn-yr-Afar Mines, which until recently were worked by two local gentlemen with success, have now been sold to an influential Limited company, and preparations are being made to extend their plant of machinery, which will enable them to cope with the large reserves of ore accumulating. This property will doubtless be the prize for 1897.

This seems to be an opportune time for capitalists in selecting some of the properties partially developed, and abandoned when metals were at their lowest ebb. MINER.

November 25.

GOLD IN WALES.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—For some time past, prospecting and development of many of the numerous auriferous lodes have been steadily pursued, with the satisfactory results of proving them rich in gold, assaying from 11 dwts. to 1 ounce 8 dwts. 6 grains of gold per ton of ore, and, as the cost of mining, milling, &c., will not exceed 4 dwts., handsome profits can be made. To bring about this result, a very short time and small expenditure of money is required, owing to the great facilities afforded for mining at a low cost. Most of the lodes can be worked by adit levels; timber and fuel are cheap, and in many places there is sufficient water-power for all purposes, whilst the mines are accessible by good roads, and the railways are within easy distance. Surely here is a good opening for capitalists, under the British Government, and almost at our own doors, instead of sending vast sums abroad to over-capitalised mining ventures, which in numerous cases are not worth the value of the paper upon which the prospectuses are printed.—Yours faithfully,

JOHN L. M. FRASER, C.M.E.

Angel Hotel, Dolgelly, North Wales.

LANCASHIRE, DERBYSHIRE, AND EAST COAST RAILWAY.

TO THE EDITOR OF "THE MINING JOURNAL."

DEAR SIR,—I have pleasure in informing you that the first portion of this railway, about 35 miles, from Clowne to Tuxford and Lincoln, connecting with the Great Eastern and Great Northern Railway Companies, has been opened for coal and general merchandise. The remaining portion, from Chesterfield to Langwith, will be opened in a few weeks. We hope to open the passenger traffic in December.—Yours truly,

H. WILLMOTT, General Manager.

General Manager's Office, Chesterfield, November 2).

BRITISH COLUMBIA LAND, EXPLORATION, AND DEVELOPMENT (LIMITED).

The statutory meeting of the British Columbia Land, Exploration, and Development Company (Limited) was held on Wednesday, at the offices of the company, 13, Austin Friars, E.C.—Mr. Alex. A. Secretan (managing director) presiding. The following is the official report:—The Chairman said: Gentlemen—This meeting is held in compliance with the requirements of the Companies Acts, which necessitate a meeting of the company being held within four months of the date of its registration. This company was registered on July 27 last, with a nominal capital of £250,000, divided into 250,000 shares of £1 each, and operations were immediately commenced in acquiring property in British Columbia. The company has been fortunate in obtaining the services of Professor J. E. Hardman and Mr. R. T. Dodd, who, acting under the instructions of the company's agents in Toronto, Messrs. Osler and Hammond, have been busily engaged visiting the Rossland and Kootenay districts of British Columbia. The company here, through their agency, inspected a large number of claims, and have acquired several promising properties ready for development. The reports received by the company confirm the enormous mineral wealth of British Columbia, and, with the improved railway communication, which is now practically assured, it is believed the interest in gold mining in that district is only beginning. In appointing representatives of such well-known positions in the country as the gentlemen I have already mentioned to watch over the interests of the shareholders, we believe the company have adopted a wise course, and will ensure a result which will ultimately be of great benefit. The policy of the company will be to transfer the properties they may acquire to another company to undertake the work of exploration and development. The funds which have already been expended have been in connection with preliminary exploration, and so as to enable sufficient development work to be undertaken to prove the properties which have been acquired, and I hope that when our next meeting takes place I shall be able to report considerable progress in the operations of the company.

WESTRALIAN MILLING PRACTICE.

By Captain C. C. LONGRIDGE, M.F.I.M.E., M.I.M.E., &c.

THE criticisms that in the past have been directed against Australian milling would, it is thought, have led all later Westralian companies to follow exclusively the best American and English practice. It is now two years since Mr. T. A. Rickard, reviewing gold milling in Australia, observed:—"The three milling centres of Victoria, which have just been passed in review, have many features in common. . . . There are no rock breakers and no automatic ore feeders in use either in the Bendigo or the Ballarat districts. . . . The absence of these very necessary parts of a complete stamp mill is an evidence of an obstinate disregard of modern progress in milling methods which is as regrettable as it is inexcusable." (*Engineering and Mining Journal*, February 3, 1894.) In spite of the progress of time, the typical Australian mill still lacks modern improvements, but, notwithstanding, still finds a sale in the Westralian market. How is this? Why is it that at least the newer mining companies have not, one and all, adopted mills of the latest design and equipment, such as are supplied by the leading English and American makers? In explanation, it is sometimes urged that colonial prices are lower. But this is too patent a sophism to satisfy any but the ignorant. The merest tyro in commercial economy knows that where plant efficiency is concerned, greater initial cost, within reasonable limits, is absolutely irrelevant. But, were difference of cost a determining factor, is it possible that for the same class and quality of goods colonial prices can be lower? Australian makers have to import their raw material. They must purchase abroad steel, iron, copper, forgings, plates, &c., and, allowing for shop waste, &c., the price must work out at somewhat higher figures. Again, skilled labour in Adelaide, Melbourne, and Gawler, the centres of the trade, is not so low nor so good as at home, consequently manufacturing charges must be heavier and the workmanship less perfect. But apart from all these considerations, is it credible that colonial firms, making, perhaps, one or two engines or mills at a sitting, can compete in price, quality for quality, with any of, the leading engine builders or large mill plant manufacturers, through whose works half-a-dozen orders are simultaneously passing? As engines are largely built of steel castings forgings, &c., and the best batteries are equipped with rivetted steel girder frames, cast steel cams and tappets, forged steel shoes and dies, all of which have to be imported, and fitted under slightly increased labour charges, how is it possible that colonial makers can supply the same quality of goods for equal, much less lower, prices? In one item—namely, boiler making, Australian makers may have some advantage. Finished boilers are bulky and expensive to ship, so that there is some saving in importing plates and making these in the colonies. With this exception, lower prices must mean inferior quality and workmanship. Some enquiries have led the writer to believe that, in certain cases, colonial firms have obtained orders by offering to erect the complete milling plant for a lump sum—a practice that does not appear to be adopted by English or American firms. This arrangement relieves directors and managers of responsibility; but, when the bill for extras is presented, it will not usually be found to contribute to economy. The plea of quicker delivery by colonial makers is emphatically denied by English and American firms. More rapid replacing of broken parts can hardly be counted against home makers, for the weak parts are known and duplicates can be stored.

The matter of import duties, which might appear to affect costs, does not really enter into the question. The West Australian Tariff Act of 1893 admits iron, steel, bar, rod, pig, plate, hoop, and sheet free of duty. For machinery there is an *ad valorem* duty of 5 per cent. As, however, the principal colonial makers of mining plant are all outside of Western Australia, they are, as far as duty is concerned, in no better position than English or American manufacturers. In fact, the writer is not sure whether firms in Victoria and South Australia who supply machinery to the West Australian gold fields have not to pay the heavy import duty for the steel they use in connection with this plant. Possibly a rebate may be allowed for goods sent out from either of these colonies to West Australia.

As a matter of interest, the writer recently asked an English mining company why they were buying their milling plant in Australia. The reply given was to the effect that the colonial makers, being on the spot, understood the mill requirements better, and turned out plants superior to English and American make. It is scarcely conceivable that this argument could have been seriously believed. Not only have the leading English and American makers a world-wide experience that covers every class of ore, and, be it said without offence, dwarfs into insignificance that of Australian manufacturers; but they have expert agents on the gold fields, and are perfectly familiar with every local peculiarity. Surely it must be pretty well known, and it may be repeated without odium, that Australian milling plant and practice occupy a position that is intermediate between the old Cornish and the most recent and approved American methods, with which the modern English practice is practically identical. There is no desire to draw invidious comparisons, but a few instances of Australian mill characteristics will, perhaps, best illustrate our meaning. The mortar boxes of an Australian mill are mostly of a crude design, showing little improvement on the old Cornish types introduced by the early miners. The cam shafts, instead of being driven direct by belting, are run by tooth gearing, with a greatly increased danger of breakdowns. In some cases as many as 15 to 20 stamps are actuated by a single cam shaft geared in this manner. The old-fashioned method of fixing and adjusting tappets by screw threads cut on the stem still prevails, although this plan by directly creating lines of fracture is a well-known and fruitful source of mishap. The rate of drop, 80 per minute, being considered fast running, is behind the requirements of rapid and economical work—yet an Australian manager has gravely condemned a higher speed as producing *centrifugal* motion in the mill and causing loss of gold. Chilled iron shoes and dies are frequently used in lieu of steel, &c. Add to this a regrettable disregard of labour-saving appliances. The writer is aware of an instance where an Australian mine manager of 25 years' standing absolutely declined to put up the automatic feeders supplied with the battery. In this case the mill was supplied by an English firm, and although the same manager reduced its efficiency by lowering the speed from 95 to 80 drops, it attained the highest record in Westralia for crushing hard white quartz. It is not unlikely that Westralian labour sets its face against automatic machinery, and that in some cases managers are influenced by their men.

To sum up, it would seem that the progress of milling practice and plant in West Australia is undoubtedly retarded by the adhesion of Australian managers to the old order of things; to the antipathy, perhaps, of the workmen to labour-saving innovations, and probably, in no small degree, to local influence, and to the natural, but short-sighted, patriotic desire to support colonial industries. Short-sighted, it seems to us, for would it not be equally patriotic, but far sounder commercial policy, to adopt the best mining plant the world can produce, be it English or American, and push forward a colonial industry that, in the face of the present great natural difficulties, demands every aid that science and enterprise can offer?

OUR SOUTH AFRICAN LETTER.

(FROM OUR OWN CORRESPONDENT.)

JOHANNESBURG, NOVEMBER 2.

IF it were possible to investigate carefully and thoroughly into the reasons which have caused the present unsettled, fidgety, slumpy sort of a market, whose persistent, unabating falling down is one of the worst *dégringolades* experienced up here, we should be bound to come to the conclusion that such a state of things is not due to any anxiety which may be caused by the different opinions recently expressed about reefs, deep levels, &c., or by the more or less attackable dispositions of the amended Gold Law, which comes to-day into force, or by any other political or private event which may have attracted a certain attention and cast a gloomy prospect all round, but the only true reason which may account for it must be sought in the last year's boom, and its nefarious heritage of rubbishes floated of hasty and ready-made companies, which, after one year's work, have very little or nothing to say, and whose assets are, of course, represented by certain properties whose value nobody knows, but whose price has absorbed a good portion—the lion's share—of the company's capital, and whose working money does not allow such an expenditure as would be required not to work, but simply to prove the property.

Under such circumstances we hear at a lot of meetings that the directors propose a "policy of husbandry," viz.—they intend to save "the debris" of their cash in hand, and we hear nothing further until reconstruction takes place, when very often nothing more is heard of the former shareholders.

Instances of this kind are often to hand. Several of the companies meetings held during the week just expired give the best and most striking proof of my assertions.

Until the market be swept of the large amount of rubbish which the confident investor is holding now, it will be hard work to avert slumps so persistent as they are nowadays. How can anybody choose between a real mining enterprise and a pure and simple company's flotation, whose value may be limited to its own prospectuses?

The flotation of certain "deep" level companies, at a time when nothing, at least no tangible proof, was to hand of the payability of the outcrop, is certainly one of the many false liabilities brought to us by the booming days of 1895.

It is wrong frequently to expect that any new venture may have brilliant forthcomings, but as it seems that nobody wishes to acknowledge the real cause of the present depression, let us divulge it; let us bring it to the broad daylight—the hiding is of no avail, and the paltry reasons given all round the fears of political troubles in Europe are all well and good, but really good investments may be affected, but not killed, while rubbish will not turn into good by being supported by strong advocates; it may help but it never lasts.

The future of the country is as brilliant as ever, and if only the investor will be in future more careful before supporting new ventures, a good lesson will make him wiser and save him again from repentance at leisure.

DIARY.

Saturday November 28.

Brownhill Great Southern, Winchester House, 12.
Expanded Metal, Cannon Street Hotel, 12.

CHESTERFIELD AND MIDLAND COUNTIES INSTITUTION OF ENGINEERS.—Saturday, November 28, Excursion Meeting to be held at Idlestop, South Carr Borings, near Doncaster. The party will leave Doncaster by the 2.10 p.m. train for Park Drain Station on the Great Northern and Great Eastern Joint Line, and return from Park Drain Station at 4.55 p.m., arriving at Doncaster 5.15 p.m. A paper will be read by Mr. George Danston on "The Extension of the Eastern Boundary of the Yorkshire Coal Field and South Carr Bore-hole." An opportunity will be afforded the members of inspecting the cores from the bore-hole.

THE SOUTH STAFFORDSHIRE INSTITUTE OF IRON AND STEEL WORKS' MANAGERS.—Saturday, the 28th inst., at the Institute, Dudley, when Mr. W. G. McMillan, F.I.C., F.C.S. (Lecturer on Metallurgy, Mason College, Birmingham), will open a discussion on "The Use of Micro-Metallography," and will exhibit several specimens by means of the microscope.

Monday, November 30.

Ella Transvaal Gold, Winchester House, 11.30.
African Metals, Winchester House, 12.
Austin Syndicate, Winchester House, 12.
Golden Gate of California, St. Stephen's Chambers, 12.
Standard Oil of Galicia, Cannon Street Hotel, 12.
Rhodesia Gold Reefs (Purdon's), Cannon Street Hotel, 12.
Balkis Land, Winchester House, 2.

Tuesday, December 1.

Kangarilla Mines, Cannon Street Hotel, 12.
Tin Ticketing, Tabb's Hotel, Redruth, 1.
Balkis Eersteling, Winchester House, 2.

Wednesday, December 2.

Mesquital del Oro, Winchester House, 12.
Waitekauri Extended, Winchester House, 1.
South African Loan and Mortgage, Cannon Street Hotel, 2.30.

Thursday, December 3.

Gold Exploration of Western Australia, Winchester House, 12.
Royal Oak of Hauraki, Winchester House, 12.
Cardiff Steam Coal Collieries, Winchester House, 12.30.
North Tolima Silver Mines, 10, Blomfield Street, 1.
Sydney Harbour Collieries, Winchester House, 1.45.
Alliance Exploring and Finance, Winchester House, 2.
Tokatea Hauraki, Winchester House, 2.
Columbian Hydraulic, Winchester House, 3.30.

Friday, December 4.

Rio Tinto Company, 30, St. Swithin's Lane, 2.
Golden Link, Winchester House, 2.
Grand Central Mining Company, Cannon Street Hotel, 3.
Heidelberg Gold Mines, Winchester House, 3.

The directors of the ANGLO-CHILIAN NITRATE AND RAILWAY COMPANY (LIMITED) have resolved to make an interim payment of 3½ per cent., or 7s. per share, on account of dividend on the 7 per cent. preference shares. Warrants will be posted on the 15th proximo to all preference shareholders on the register on December 5.

The OCEANA CONSOLIDATED COMPANY (LIMITED) announce that the receipts of the Companhia de Mocambique for the month of August last amounted to £6270. Ordinary expenditure for the same period was £6386, of which £582 were expended on public works. Beira Customs receipts for the same period amounted to £2656.

SULPHIDE CORPORATION (ASHCROFT'S PROCESS) (LIMITED).

An extraordinary general meeting of the preference shareholders in the Sulphide Corporation (Ashcroft's Process) (Limited) was held on Tuesday, at the Cannon-street Hotel.—The Earl of Kintore, G.C.M.G., who presided, said that when the company was formed the patent rights were secured for the treatment of sulphide ores in all parts of the world, exclusive of North and South America. Arrangements had now been made to acquire these rights on satisfactory terms. The corporation would issue to the vendors, the Sulphide Trust, 50,000 preferred shares, in consideration of which the corporation would receive £50,000 in cash, being their par value. In addition, the Trust would have allotted to them 50,000 ordinary shares, both classes of shares ranking *pari passu* with the existing 500,000 preference, and 500,000 ordinary shares, forming the original capital. Since the statutory meeting in February last a suitable site had been obtained for the company's works, and the erection of the various buildings, plant, and machinery had been proceeded with, the latest advices from Australia stating that the works would be in operation in January next. At their mine at Broken Hill a concentrating plant had been erected, capable of treating 3000 tons per week, and by cable received this morning they learned that the first section was running with satisfactory results. The local directors advised that from the concentrates alone a profit of upwards of £100,000 per annum would be derived, while inquiries in Europe led them to believe that this amount would be largely exceeded. These profits were entirely independent of the profit to be derived from the works at Newcastle. The directors believed, therefore, that at the next meeting they would be able to submit a very satisfactory state of affairs.—A resolution increasing the capital was unanimously passed, and a subsequent meeting of ordinary shareholders also agreed to the arrangement.

"THE LINCOLN STAMP ALBUM".—This album has spaces for the latest countries that have issued stamps, and contains room for over 6400 stamps. The illustrations of stamps have been omitted from this, the eleventh edition, and in their place a very full and comprehensive description of the stamps is given, together with some highly interesting notes on the designs, &c., of the stamps. A descriptive catalogue and an atlas of 16 coloured maps complete an album which does credit to the publisher, and which is brought by reason of its moderate price, within the reach of every philatelist.

THE ROYAL STANDARD GOLD MINES (LIMITED).—We have been favoured with an advance copy of the prospectus of this company, together with a preliminary notice, and an intimation that the prospectus will not be advertised.

REPORTS FROM THE MINES.

BRITISH MINES.

BASSET.—Manager's report, dated November 21:—The 230 end west of Lyle's shaft is being driven by boring machinery at £8 per fathom. The last 7 or 8 fathoms driven through will pay to stope. End at present worth £8 per fathom. The 230 end west of Lyle's shaft on Basset lode is being driven by boring machinery at £8 per fathom. I expect an early improvement in this end, as we are now getting near the line of tin ground. Lode at present worth £5 per fathom. The 230 end east of Lyle's shaft on Basset lode is driving at £3 10s. per fathom, producing stamping work for tin. The 220 end west of rise is driving at £4 5s. per fathom. Lode poor at present. The 210 end west of rise on Basset lode is driving at £5 10s. per fathom. Lode worth £8 per fathom. A winze sinking below the 210 fathom level is worth £15 per fathom, sinking at £5 per fathom. The 200 end west is being driven by boring machinery at £7 per fathom. We have passed through the cross course, which has thrown the lode north, and we are driving north to find it. We are crosscutting south at this point at £5 per fathom. To explore the ground to the west of the crosscourse, hoping to find some of the old copper lodes which are standing to the south of us, at this depth productive for tin. A winze sinking below the 200 fathom level on Basset lode is worth £10 per fathom, sinking at £5 per fathom. A winze sinking below the 200 fathom level on Flat lode is worth £7 per fathom, sinking at £7 10s. per fathom. Our stopes throughout the mine are without any particular change to notice, producing their usual quantity of tin. Marriott's shaft is down to the 40 fathom level below the adit. The new shaft is now altogether to the south of the old shaft. At this point we shall fix plunger pole, and cut ground for cistern, &c. It will take us some time before we shall get ready to sink, as we have to brick up 40 fathoms of the shaft.—Daubuz's. The 170 end west is being driven by boring machinery at £7 per fathom. Lode poor at present. A winze sinking below the 170 fathom level at £7 per fathom, worth for tin £12 per fathom. We have sold during the past four weeks 54 tons 11 cwts. 0 qrs. 5 lbs. of tin ores, realising £2026 10s. 7d.

WEST KITTY.—November 26: The winze sinking below the 72 fathom level west of Reynolds' shaft is worth £7 per fathom. The 60 fathom level driving west of shaft north of slide; the lode is about 3 feet wide, and worth £8 per fathom. The stopes throughout the mine are looking very well at present. Thomas' shaft is about 3 fathoms below the 66 fathom level, we hope to be ready to fix the pole at the 66 fathom level in a week or two. The 66 fathom level driving east the lode is 4 feet wide, and worth £12 per fathom. The 66 fathom level driving west the lode is about 2 feet wide, and worth £10 per fathom.—The 60 fathom level driving west of shaft. The lode is small and unproductive. The 60 fathom level east of shaft is worth £8 per fathom. The rise in back of 60 fathom level east of shaft east of crosscut is worth £9 per fathom. We have eight tribute pitches working by 31 men, tributes varying from 5s. 6d. to 14s. in the pound.—(Signed) John Williams, Joel Hooper.

VAN RYN WEST.—It is with great regret that the board announces the death of Mr. Carl Mulhause, one of the company's local committees at Johannesburg, which occurred suddenly during the month of September. Mr. Mulhause rendered valuable services to the company, and will be much missed. His place has been filled by Mr. X. Hoffer.—Mining development from July 1 to September 30. Development to June 30 7144 feet.—Since shaft sinking, 117 feet July, 58 feet August, 88 feet September.—Driving, 478 feet July, 456 feet August, 515 feet September.—Crosscuts, 79 feet July, 35 feet August.—Winzes, 197 feet July, 243 feet August, 135 feet September.—Rises, 28 feet July, 48 feet August, 26 feet September.—Totals, 979 feet July, 910 feet August, 812 feet September. Total during period 2581 feet. Grand total 9725 feet.—Ore in sight at September 30, Mine No. 1 main reef 14,336·9 tons, ditto main reef leader 12,589·2 tons. Mine No. 2 main reef 11,100 tons, ditto main reef leader 16,150 tons. Mine No. 4 south reef 24,694·6 tons, total 78,871 tons.—Ore in sight. This has been remeasured and estimated up to September 1. The average width of stope taken is 30 inches. From the above-mentioned total of 78,870·2 tons, it is estimated 32½ per cent. will have to be "sorted." There is also a further 32,000 tons of ore in sight, the value of which being as yet uncertain, has not been included in above total.—Report on operations for period from July 1 to September 30. Mine No. 1. Having reached a depth of 350 feet in sinking of No. 1 shaft it was discontinued for the purpose of cutting the second level station. After this was completed driving was started on the level east and west of the shaft.—Mine No. 2. In the middle of the month the main reef was cut, and the sinking of the shaft is now going with the reef, the total depth being 293 feet. The first level drives have been extended east of the shaft on the course of the main reef and main reef leader, west of the shaft on the main reef leader only. Drives have been continued on the second level on the main reef.—Mine No. 3. This shaft has attained a total depth of 357 feet. The drives at this depth on the first and second level have been carried on the reef. The reef is improving with depth.—Mine No. 4. This shaft has been sunk to a total depth of 451 feet. The west drive second level has cut the reef again, showing two leaders panning fairly well.—New works. The erection of the air compressor, as well as the battery proper, have been making good progress, and will soon be finished.—Native labour. Since September 1 the Kaffir wages have been reduced to the extent of 12 to 15 per cent, in order to admit of a gradual reduction to be made, so as to comply with the resolution of the Chamber of Mines.—Assays. A list of assays made from July 1 to end of September is enclosed herewith.

AUSTRALIAN AND NEW ZEALAND.

CENTRAL EXPLORATION AND INVESTMENT CORPORATION AND WESTRALIA AND EAST EXTENSION.—The following is the mine manager's report for the fortnight ending October 17:—Lease 149, No. 4 shaft. Six men, work done 9 feet, total depth 152 feet. Lode wide, 5 feet, value 5 dwts. No particular change has taken place at this point since last report, except that the lode has increased a little in width.—No. 3 shaft. Four men, work done 10 feet, total depth 108 feet. Lode wide, 4 feet, value 4 dwts. The depth for a second level has been reached, and we are now driving south-east on the course of the lode.—Lease 1151, No. 12 shaft south-east drive. Four men, work done 33 feet, total length 251 feet. Lode wide, 6 inches. The disturbed nature of the lode spoken of in the last report has continued, and the driving during the last two weeks has been of an unproductive character, the lode having dwindled down to a trace. Operations at this point will be suspended for the time being.—No. 12 shaft north-west. Four men, work done 16 feet, total length 143 feet. Lode wide, 1 foot 3 inches, value 2 ounces. The lode is still regular and well defined.—No. 15 shaft second level north west. Four men, work done 20 feet, total length 20 feet. Lode wide 4 feet, value 5 dwts.—No. 19 shaft. Four men, work done 28 feet, total depth 89 feet.—Machinery. Our milling and pumping machinery are in an advanced state. We hope to begin the pumping at Naumann's water shaft, the clearing up and securing of the same before our next report, and also the sinking of the same to a greater depth, in order to supply our requirements.—Excavation of dam. We have begun the excavation of ground on Lease 1151 as a reservoir. The site chosen is in the natural water course when it rains, and the capacity will be about 175,000 gallons. The first thunderstorm would, in all probability, give us water enough to pay for the excavation six times over.

GOLDEN ARROW.—The following is an extract from the company's superintendent's report, dated October 19: Work generally is progressing most favourably, and when I cut the lode in the main shaft all dead work will be at an end. I can then block out from both ends—that is from the main whim shaft to the underlay shaft. When I have the ground open at different levels, as I intend, we will then have milling ore in sight for the next six years. The rich reef that is now in the shaft, and to which I alluded in my cable, is one of the feeders of the main lode; and I fully expect that when I cut the lode at the 410 feet, or possibly 415 level, to see the mine richer than she is at the 320 feet level. I have had some of the reef now appearing in the shaft at 320 feet assayed. The assay went 12 ounces 1 dwt. per ton. Everything is looking very promising indeed. About two days ago the Devon lease, which adjoins our northern boundary, struck a very rich lode at their 100 feet level, and now are driving south on to our boundary. It is estimated to go 50 ounces to the ton. This lode is quite different from our reefs, and where the new find was made the distance is only 15 feet from our northern boundary, dipping into our ground, and can be picked up. I had a slab of the material brought to me on the mine yesterday, and have permission to go down the Devon shaft to see for myself. I will let you have full particulars next mail after I inspect this find. Considering we have such rich gold on the northern boundary of our leases, and also in the No. 1 underlay shaft at the southern boundary adjoining the hill end, and, taking into account the gold at the 320 feet level, I do not for one moment see why the Golden Arrow should not be one of the finest properties in Western Australia. The battery is not in working order yet, owing to the absence of the Cam shaft and framing. No trace of them can be obtained in Western Australia, and until duplicates arrive I can do no crushing.—The missing or lost parts of the battery machinery alluded to were as soon as possible duplicated on the company learning of the mishap, and they were shipped by the *s.s. Ballarat*, which arrived at Albany, Western Australia, on the 2nd inst. Cable information is also to hand reporting the arrival at Coolgardie of the larger portion of the pumping machinery, and that the remainder was in transit from Port of Fremantle. The machinery is of power capable of coping with the important increased influx of water already reported, and any greater quantity it may have to contend with. On arrival at the mine the utmost expedition will be used to put the pumps down, so that it is hoped ere long to be able to report that all is in working order.

LOMBARDY.—Manager reports for week ending October 17: Main shaft 150 feet level north extended 8 feet, total 150 feet. Lode 8 inches wide, of good stone for gold. Same level south extended 11 feet, total 130 feet. Lode 8 inches wide, carrying milling stone. 75 feet level north extended 12 feet, total 95 feet. Lode much improved, 21 inches wide, showing coarse and fine gold.—Same level south. Crosscut from lode to intersect vertical shaft driven 10 feet, and communication made.

MOUNT ZEEHAN (Tasmania) SILVER LEAD.—Manager reports for week ended October 15: Silver Queen section, No. 8 lode, No. 3 level. Crosscut east extended 9 feet 6 inches, total 84 feet, and intersected hanging wall. Have started driving south on footwall, where there is a good shoot of ore 10 inches wide, of which 4 inches is first-class ore, assaying 75 per cent. lead and 98 ounces silver. North drive on footwall extended 5 feet, ore about same as in south drive. Concentrator has been running on ore from Zeehan-Montana Company.

OCTAGON EXPLORERS.—Extract from mine manager's reports on Union Jack (Hannan's). Main shaft sunk a further 17 feet, total from surface 87 feet. The ground so far has been fairly good sinking, but during the last few feet it has become somewhat hard, owing to the slate being less decomposed. The whole of the surface and pumps sets of timber are now in position, slabbed up and centred, making a very solid piece of work.—Southern Boulder (Hannan's). Main shaft sunk 19 feet, total from surface 49 feet. Ground good sinking. I have obtained concentration of labour, and have, therefore, stopped all work outside the main shaft, on which I am now working three shifts of men.—Mine manager's report on Tower Hill leases, October 9. No. 1 shaft has been sunk to a depth of 14 feet, and prospects fairly well from drillings in fine gold. No. 2 shaft has been sunk 4 feet, making a total of 48 feet from brace. Stone still of very fair average quality. No. 3 shaft has been sunk to 53 feet. Have now started to crosscut east through the reef. Have driven 6 feet. Stone rather poorer than hitherto. Hope for better results as we approach hanging wall. No. 4 shaft has been sunk 9 feet, making a total of 21 feet. Expect to strike the reef at 35 feet. Am sinking this shaft vertical to water level, when I will crosscut through the reef.—Water shaft. Crosscut has been extended 10 feet, making a total of 15 feet. Passed through the stone met with last Saturday at 2 feet, but after driving 6 feet further have again struck stone, which I believe to be the reef: This time it carries a little gold

MENZIES GOLD ESTATES.—Extracts from mine manager's report dated October 17:—Aurelia, No. 2 level north from No. 2 shaft is now in 10 feet. The drive is in very nice lode formation carrying a streak of quartz 6 inches wide, which assays 4 ounces 15 dwts. 2 grains per ton. In breast of No. 2 level south which is 6 feet from shaft, the lode has also improved in value, now assaying 4 ounces 4 grains per ton. The streak of quartz that carried this gold is 1 foot wide. We have no regular walls as yet, the drive being in lode formation and quartz.—No. 1 level. In the stope in back of this level the lode is 15 inches wide. A sample taken for 8 inches in width assayed 3 ounces 17 dwts. 16 grains per ton.—Cleone. This shaft is now down 97 feet, and still in very hard ground.—Etrenna. The main shaft is 70 feet 6 inches in depth. We have come on lode formation at the bottom with small streak of quartz which dollies a little gold. The lode outcrops east of shaft and dips to the west.—Mill. The frame for building is now being put up, and very fair progress is being made. Water jacket tanks with connections to engines are in course of being fixed in place. Hoppers stand for supply tanks at back of mill tables for amalgamating plate, boxes, &c., &c., will be made and put in place in due course of time. The water pipe for supplying battery is laid and connected with main supply from lake.

MOUNT CHARLOTTE.—Manager's mail report of October 9 states:—Murray's shaft 300 feet level, driven in 20 feet, rock hard with numerous leaders giving a trace of gold and water dripping from them. 200 feet level driven in 78 feet, rock about the same as in 300 feet level. Tweedie's shaft sunk 120 feet, numerous leaders of quartz are showing in bottom well mineralised. The new winding plant has arrived. The mill is only running fairly well.

MOUNT LYELL MINING AND RAILWAY.—Engineer in charge of mine reports for week ending October 9: No. 1 tunnel. Drive extended 3 feet, total 118 feet.—No. 1 tunnel, north drive. Drive extended 4 feet, total 81 feet. No. 3 tunnel, main crosscut, south drive. Drive extended 5 feet, total 53 feet.—No. 3 tunnel, main crosscut, north drive. Drive extended 5 feet, total 62 feet.—No. 4 tunnel, south drive. Drive extended 5 feet, total 590 feet.—No. 4 tunnel, south drive, No. 3 crosscut. Crosscut extended 4 feet, total 87 feet.—No. 4 tunnel, south drive, No. 3 rise. Rise put up 3 feet, total 50 feet.—Surface work. No. 1 bench. Stripping overburden proceeding.—No. 2 bench. Breaking ore carried on during week.—No. 2½ bench. Stripping proceeding.—Chief metallurgist reports for week ending October 9: Smelting plant. Furnaces Nos. 1 and 2 in operation, the latter blown in on the 6th inst., both running splendidly. Supply pump in operation delivering water from Queen River to service tank. Clearing nearly finished for flume from east fork to converter tank. Slag dump siding platelaying in progress.—Converter plant. Slag run-way for remelting furnace nearly completed, windows and finishing work of building in progress. Converters' masonry finished, brick piers and pedestals completed, all three stands in place and lined up. Remelting furnace downcast pipe in progress. Accumulator masonry and brickwork of foundation pier finished, bolts in place. Crane foundations in progress.—Blowing engine. All heavy parts in place and aligned, air receiver in position, beginning to fill matte bins in building. Weather fair.—Railway engineer reports for week ending October 10: Rack laying in full progress upon the 1 in 20 gradient, and 7 miles 4 chains completed. Teepookana wharf foundations for steam crane, and wharf alterations in progress. Queenstown goods shed framework and principals in position, flooring and platform in hand. Loco. and running sheds site excavation in progress, 1020 excavated. Converter siding Nos. 1 and 2 Queen River bridges, all piers and abutments in position, and superstructure in progress.—By wire October 14:—"Reached Binadeena (15 mile) with rack to-day."

MYALL'S UNITED.—Manager's report for fortnight ending October 10:—Main shaft sunk 7 feet 6 inches, now down 284 feet 6 inches. The crosscut at No. 3 level from No. 1 shaft has intersected main shaft after a total drivage of 137 feet.—No. 1 shaft (underlie). Drive south at No. 3 level extended 10 feet, total length 104 feet. The lode is unaltered in character, and its width is now 27 feet. The stone to the west on this shoot is worth over 2 ounces gold per ton, and I consider we are now close to the footwall. This is by far the most valuable make of stone in the mine. Drive north at No. 1 level extended 17 feet, total length 121 feet. No. 2 crosscut at No. 3 level extended 33 feet, now in 69 feet. The ground is soft, and indications of a lode are visible.—Queen lode. South drive at No. 3 level extended 6 feet, now in 23 feet. Stone about 3 feet wide, but poor. North drive extended 11 feet.—Rise over No. 3 level. Have reached the expected shoot of stone about 7 feet wide, consisting of a network of leaders and branches of solid quartz, carrying good payable gold in easy working country, which from appearances may extend to a considerable depth. This will be proved by a crosscut at a lower level. Drive north at No. 2 level started and driven 6 feet.—Reidie's shaft. Drive north extended 18 feet, now 154 feet from old stopes. Lode about 16 inches wide, but still poor in gold.—Water supply. I obtained possession last week of a right to all the available water on Tomingley Creek, with a dam area of 15 acres, where an enormous quantity of water can be stored at a not heavy cost. Old battery is being demolished. The final clean up gave 99 ounces bullion, since sold for £257 17s. 10d.

NO. 7 NORTH EAST QUEEN.—The following fortnightly report has been received from the mine, dated Charters Towers, October 9: I beg to report that on the 5th instant Penhallurick and party cleaned up their crushing of 90 tons 13 cwts. for a yield of 221 ounces 10 dwts. 3 grains of smelted gold, and their No. 1 stope at present will average fully 3 feet 6 inches of stone of equal quality to that just crushed. The No. 2 stope from 10 to 12 inches of stone. They have about 15 tons already broken. Ferguson and party are stoping on about a foot of stone, which prospects fairly well. This party have 14 or 15 tons broken. Andrews and party have no stone at present, and are now driving. They have 7 or 8 tons below broken of good quality. Quartz hauled for the fortnight about 27 tons, and also 187 tanks of water.

SOUTH MOUNT LYELL.—Mine manager's report, dated October 17:—Shaft section 172 91. The shaft has been sunk a further distance of 2 feet 6 inches for the week, or a total of 27 feet from the surface. The country passed through is a blue schist, well impregnated with copper pyrites, also free splashes of galena in places. The country is rather harder and a free intake of water has set in. Sinking has been much slower in consequence and is likely to continue so.—Centre tunnel section 112-91. The face of this tunnel has been advanced a further distance of 13 feet for the week, or a total of 117 feet from the opening set. The country is a slate-coloured schist, with slight indications of mineral and stratified with the drive. Timbering is still required owing to underlay into tunnel.—Main tunnel section 4-92. The face of this tunnel has been further advanced a distance of 9 feet for the week, or a total of 513 feet from the opening set. The water, which has hitherto been very heavy, has commenced to slacken. The country has slightly changed for the better, quartz leaders again coming in and slight splashes of pyrites.

WATER TRUST, MINING, AND PUBLIC CRUSHING COMPANY OF WESTERN AUSTRALIA.—New Victoria South Mines. The mine manager reports under date October 10:—Underlay shaft No. 1 has been sunk a further depth of 9 feet, making the total 98 feet. Very little change in reef since last report. The 65 feet level east has reached a length of 30 feet, reef about 2 feet 6 inches, showing fine gold. Surface drive extended 16 feet and partly timbered, total length 38 feet, reef and lode formation about 3 feet, all of which carries fine gold. B 212', No. 2, underlie shaft sunk 2 feet, total depth 52 feet. Discontinued sinking, started driving south-east, drove 3 feet on a good body of stone showing fine gold.—Mill works at Northam. The general manager reports rapid progress at the mill site. The Premier, Sir John Forrest, visited the works on October 14, together with a number of influential persons from Perth, who expressed great surprise and admiration at the magnitude and excellence of the plant.

WESTERN AUSTRALIAN DEVELOPMENT CORPORATION.—Dorothy. Fortnightly report: Incline shaft. Have finished cutting plat at 120 feet, and timbered same. Sinking has been resumed, and the shaft has been sunk a further 20 feet, making a total of 140 feet. The shaft is now being sunk on the footwall side of the reef, as this leaves a well defined hanging wall to the shaft, and saves timbering.

NEW ZEALAND TALISMAN.—The Auckland agents of the company report: We desire to repeat our opinion that the present appearance of the company's mine is highly promising, more than justifying the outlay which we are making, and proposing to make, on alterations and additions to mill, enlargement, and straightening of water race, erection of bridge across the Waitawheta. As soon as these works have been completed, a steady yield of bullion will be obtained, with a greatly reduced cost of milling. We expect to be able to resume crushing before the end of the year.

NEW QUEEN.—The following fortnightly report has been received from the mine, dated Charters Towers, October 9: Straight shaft. The straight shaft has been sunk a further depth of 30 feet, making 69 feet below the No. 5 formation plat and 1445 feet from the surface. The sinking during the fortnight has been in fairly good country with regular floors coming in dipping to the north-east. The drills bored into quartz at the bottom of the shaft on Wednesday. There was a thin vein of stone on the hanging wall of the formation carrying a little mineral, owing to the dangerous state of the shaft it had to be timbered twice during the fortnight, making a total of 41 feet timbered for that period. Sinking has again been resumed, and in boring the last holes the drills went into stone. This will be shot up to-morrow morning. The water has increased, and is getting troublesome.—East level, No. 5 formation. This level has been extended 28 feet, making the total 338 feet from the shaft. The reef in the drive is a little smaller than it was, being now about 1 foot thick, but it is showing more mineral. During the fortnight 72 trucks of quartz have been raised.

HANNAN'S REWARD.—Extract from manager's letter dated October 13—No. 2 level main drive north has been extended 4 feet 6 inches, total from crosscut 20 feet 6 inches. This drive is in a splendid body of quartz and pyrites. Assays show traces of free gold, while the concentrates, of which there is about 20 per cent., assays 2 ounces 5 dwts. 17 grains per ton.—October 20. No. 1 level No. 5 crosscut east has been driven 11 feet 2 inches, total distance 205 feet 2 inches. This ground is rather tight for boring, but breaks well.—Crosscut west on No. 2 reef has been driven 14 feet 6 inches for the week, total 100 feet 6 inches. This crosscut is now following a line of fracture in the country. No. 2 level north drive has been driven 3 feet 6 inches, total 13 feet 6 inches. The lode in this drive is very hard, but carried about 20 per cent. of pyrites, which assays 1 ounce 7 dwts. 10 grains per ton.—South drive. During the week the lode became very much broken up on account of a series of fractures in the country. A crosscut was driven 7 feet 6 inches to the west without revealing anything of any consequence. On driving east, however, there is a splendid body of ore carrying at least 25 per cent. pyrites. Water shaft has been sunk a further depth of 10 feet 4 inches, total 152 feet 4 inches. The rock still continues soft with occasional small hard bars.

HANNAN'S KING (Brownhill).—The mine manager on the company's property at Kalgoorlie writes under date October 12:—During the two weeks I have been in charge of the mine I have made a careful inspection, and also of the adjoining lease, and forward you small plan, showing the trend of the lodes going through the block. Mr. Thompson, the manager of the Mount Charlotte Mine, was good enough to allow me to go down his shafts, and I have gained some useful information from my inspection. You will notice from plan sent that all work done has been confined to eastern side of property. No attempt up to now has been made to cut the proved lode running through Mount Charlotte. . . . I shall commence a new shaft close to Mount Charlotte boundary. Your property should be a most valuable one. . . . I shall push on work vigorously and with the greatest economy.

AFRICAN.

ROBINSON GROUP OF MINES.—The London agents, Robinson South African Banking Company (Limited), have received the following reports for week ending October 21: Langlaagte Estate Gold Mining Company (Limited). Mine: Considering the small number of boys the tonnage of stone raised can be taken as satisfactory. The ore received at crushers comes to 4746 truck loads from the mine, and 22) truck loads from the mine, and 220 truck loads from the Marcus shaft dump, total 4966.—Cyanide works, tailings: Four vats were filled, the average assay value being 3 dwts. 4 grains and the residues 7 grains. Concentrates: One vat was emptied, the residues went 2 dwts. 4 grains, and refilled with 110 tons, value 1 ounce 14 dwts. 6 grains.—Crushers: Since the 19th inst. the new crushers have been running which enabled the others to be repaired, new heads or liners put in without Sunday overtime.—Construction work. This has made good progress. The copper plates are on the mill tables, the new mill smoke stack is erected. New tanks are well ahead, as are also the new pumping station machinery and buildings.—Block B Langlaagte Estate Gold Mining Company (Limited). Development for the week was 46 feet driven and sunk. Tons of ore crushed 1875, tailings treated by cyanide 860 tons, concentrates treated by cyanide 25 tons. Some of the drives and winzes have improved a little during the past week.—Mine Stopes about same as last week.—Mynpacht Randfontein Gold Mining Company (Limited). The main shaft has been sunk and timbered 19 feet, total depth 431 feet. The compressor is being erected with all speed, with the view to driving the crosscuts as soon as the shaft reaches the 500 level.—Robinson Randfontein Gold Mining Company (Limited). The main shaft has been sunk 17 feet, making the total depth 563, and the total footage from all sources is 191 feet. The number of assays taken from different drifts is five, and the assay value over a thickness of 6. 8 inches was 141 dwts. 5 grains. The reef looks well in all second level faces, especially No. 4 winze, which continues to show visible gold freely. Present machinery is working well. The erection of new plant is being pushed ahead.—Porges Randfontein Gold Mining Company (Limited): Mine. Fest developed 120. Assays from div. faces 4th level north 8 inches equals 14 dwts. Central winze 5th level north 13 inches equals 1 ounce 6 dwts. No. 3 shaft 5th level north 14 inches equals 2 ounces 13 dwts. South winze 4 inches equals 1 ounce 18 dwts.—Mill. 67 stamps ran 5 days 23 hours 7 minutes, crushing 1326 tons, average battery ore 13 dwts., average battery tailings 4 dwts. 3 grains, cyanide treated 750 tons, average value 3 dwts. 15 grains.—Langlaagte Star Gold Mining Company (Limited). Development for the week amounts to 67 feet. Tons of ore crushed, 730 tons. Tailings treated, 705 tons. Daily scrapes are keeping about the same as they were last week. Main reef leader in No. 1 east and No. 1 west winzes continue to look and assay very fair. All the machinery is in very fair working order. The water supply is very good.—North Randfontein Gold Mining Company (Limited). Total development for the week amounts to 94 feet. The second level is now connected right through the property. Crushings with 40 stamps since the 16th instant at the rate of 6 tons per stamp per day. All machinery working very satisfactorily. Average assay of tailings taken direct from the launder is 2½ dwts.—Block A, Randfontein Gold Mining Company (Limited). At the main shaft the main and tank stations are completed, and the pump bearers are being put in at the second level. Sinking will be resumed at the end of this month. The amount of development for the week is—Sunk 43 feet, driven on reef 96 feet, crosscuts driven 20 feet, total 159 feet. The amount of ore developed for a width of 30 inches is 2057 tons. The assays for the week range from 13 dwts. to 22 ounces for a width of 6 inches, averaging for a stoping width of 30 inches 14 dwts. 17 grains. The compressor plant is being erected. I hope to get it started by the end of the coming month. All the machinery is working well.

SANTA ANNA.—Under date October 21 the manager writes:—I am becoming more and more favourably impressed with the Santa Anna lode. Its general appearance is very encouraging and it only remains for me to satisfy myself of the value per ton. For the month the drivages are as follows:—No. 1 end 32 feet 1 inch. No. 2 end 21 feet 9 inches. No. 3 end 25 feet 11 inches. No. 4 end 19 feet 4 inches. New adit 41 feet from surface cutting. It will be seen that there is an improvement in the amount of ground driven. The three first drivages are all in good lode, the No. 3 having greatly improved of late, and I think we are safe in saying that we have a new shute of ore certainly over 250 feet on the lode in height irrespective of its length. The No. 4 end is not sufficiently advanced to intersect the shute. I am putting six men in this end for the coming month to urge on the work. What is already opened up in the mine has revealed some splendid stoping ground and continues so. It only remains for us to put ourselves in position to handle the ore cheaply. Some of this work is laid out, and I hope to get some of it carried out this month. I also intend driving a level from the present top of Bawden's shute in a southerly direction. This is to open up some further ground which I think is ahead and, by holing into a rise coming up from the Bahia workings (already there) will give facilities for handling the ore from this part of the mine later on.

VAN RYN.—Extract from the report for September:—General manager reports:—On the 7th inst. the boilers of the old battery became so defective that it was considered dangerous to keep them under steam. A thorough repair would have lasted till the middle of October, whereas it was hoped by that time to have the erection of the new works completed. It was therefore decided to close down the old battery and to suspend the greater part of the mining development.—Mine No. 4. The new main shaft was sparred down to the fourth level, 143 feet below third level.—Mine No. 8. On both drives of third level the south reef has been crosscut, yielding very satisfactorily. The clean up has not yet been completed. The zinc of the boxes has been dissolved in acid, as it is not required in the new works where the precipitation is done by the electrolytic process.—New works. All the machinery in the new battery engine house is now erected and has been tried, most of it to the greatest satisfaction. The electrical plant, the cyanide works, and slime pits are progressing well. Advice by cable has been received that the new mill and engine started on October 20 last, and that all the new plant, including cyanide works, are working very satisfactorily.—Cost per ton milled. Mining £1 15s. 10·72d., transport 1s. 6·70d., milling 10s. 6·44d., maintenance 11s. 0·73d., redemption 3s. 6d., general charges 7s. 8·23d.—£1 9s. 8·90d.; cyanide works 13s. 5·19d.—£4 3s. 2d.; realised per ton £3 15s. 0·40d., loss per ton 9s. 1·63d. Capital expenditure £1220 5s 11d.

MISCELLANEOUS.

ANGLO-MEXICAN.—Under date October 21 the mine manager reports as follows:—Crosscut east and west in face of main tunnel. The crosscut to the west was driven 22 feet, showing no indication of ledge matter. The crosscut to the east, after cutting unimportant stringers, encountered the vein at 20 feet. The vein is about 3 feet wide, and assays $24 per ton. We are laying track in this drift and will soon start a stope. During the next week the main tunnel will be continued. Its course will be deflected slightly to the east to reach the vein.—Main shaft. We have made a great effort to push this work, but we have had to contend with so much water that we only made an advance of 12 feet.—Upraise No. 17, Guadalupe tunnel. The vein still continues wide but carries very low grade ore. Will continue work here in hopes that the quality of the ore will improve.—Winze No. 13. We are still sinking this in 38 feet from main tunnel level, the ore body continues wide and of high grade, and there is little water on account of drainage along the ledge to main shaft. We have every reason to believe that we are developing considerable valuable ore in this part of the mine.

FRONTINO AND BOLIVIA.—Mr. Penberthy's report on the mines, mills, La Salada, October 3: Water. We have had just enough to keep our mills going, but not sufficient to replenish the springs from which our supply is drawn, a fact that does not fail to make me anxious regarding the future. Our ditches are in first-class order apparently, and have given us no trouble. In fine, we have had no hindrance. Everyone has done his duty, and everything has gone on well.—The Mines, El Silencio is not looking near so well as she was when last reported on, several of our ends having simultaneously run into unproductive ground. No. 5, from where we were getting our best mineral, has failed considerably. No. 5 crosscut failed to cut the lode, through hindrances caused by stopping of pumping gear for repairs. We have driven through a mineralised branch about 12 inches wide, and calculate to cut the main lode some 10 or 12 feet from this point, measurements showing that it ought to be intersected at the distance mentioned. It goes without saying that there is a remote possibility of the branch we have gone through being the main lode, seeing that its underlie is no two levels alike. Nevertheless the country rock and indications generally lead us to believe that it is farther ahead. No. 7 south is in an unsettled piece of ground and a consequent variation of value—I might almost say from day to day. It is looking a little better at this date, but from reasons stated here and in my report of September 10 may be worthless to-morrow. An assay from this end gave 3 ounces 18 dwts. 12 grains. No. 6 end south does not come up to expectations, being still in anything but a defined lode. We have commenced a winze in the bottom of No. 5 for the purpose of ventilating this, and at the same time getting a practical proof as to our whereabouts in relation to the lode that the said winze has been started on, which is well formed, and yields a fair quantity of good milling ore, assayed 1 ounce 5 dwts. 3 grains per ton. (The winze mentioned here is much further north than that of which mention is made in a former report.)—No. 5 south. Lode, though still rich, is much narrower, and, it is to be feared, reaching the end of the rich deposit that has rendered such good service during the past two months. A winze sunk from No. 4, and a few fathoms ahead of this, reached the level of No. 5 in a poor lode. We are driving north from this, and shall shortly communicate with the end coming towards it. The rise in the back of this level is going up in a wide lode of decreased value, the sink commenced just behind the end being in good ore. General sample of end gave 14 ounces 13 dwts. 8 grains. No. 4 south driving in a lode from 3 to 4 feet wide, and of a very low grade, in fact, at this moment it will not pay for saving. A general assay gave 9 dwts. 18 grains to the ton. No. 3 also, in a wide and poor lode, gave an assay value of 6 dwts. 12 grains per ton. No. 7 north also varies in appearance and in quality from week to week, at the end of the month it showed a fair lode worth 1 ounce 6 dwts. 3 grains per ton. No. 5 north is still poor and hard. In the bottom of this and about midway between shaft end end, we have cleaned up an abandoned sink, in which we found a lode of average width and quality, but which is not the lode on which the No. 6 north has been driven. This is developing into a very interesting point, and one where important results may be met with. The lode on which we are sinking seems to be going down to the east of No. 6 end, which was stopped through the miserable appearances of the small branch to be seen in it to-day. No. 4 north is looking better than when last reported on, but as yet shows nothing of value. The stopes throughout the mine with but slight variations are much the same as they have been for the last two months, but the falling off in the produce of the ends has naturally affected the value of our total output. We have still some rich stoping ground in the back and bottom of No. 5 south, but the decrease in the general produce of the mine requiring a larger portion of rich mineral to keep up the grade, and there being through the comparative poverty or smallness of No. 5 end a lesser quantity available, we must naturally look for a decreased production in the month of October. I find that south of shaft and between No. 3 level and surface nothing has been done in the way of exploratory work. No. 3 being at least 600 feet ahead of the end of any level above it, 50 feet below the adit, which has not been driven far in this direction, and some 150 feet from surface we have commenced to clean up and range an old level, which for the future will be known as No. 3. As soon as possible we shall begin driving this, not thinking it right that such height and length of ground should remain unexplored. This mine shows an increased cost when compared with that of last month, owing principally to the increased number of men.—La Salada. On the 16th we commenced sinking the engine shaft, which we intend putting down some 2 fathoms, and so make a pit in which our water cars will fill and enable us to keep our mine dry during the time occupied in repairs of water wheel, fall rods, &c. We sank 1 foot 6 inches in favourable ground. This is necessarily a slow operation, work being carried on during night only, and then in anything but a regular manner. No. 3 level south has been started, lode at present being very small and poor. The stope in the back of this level north still produces good mineral, though a general sample gave only 15 dwts. 12 grains to the ton. No. 2 level north, here the lode has fallen off in size and value, being only 10 inches wide. An assay gave 1 ounce 2 dwts. 12 grains. This level north on the flat lode has improved in quality, is about 3 feet wide, and according to assay yields 2 ounces 2 dwts. 12 grains per ton. A stope in the back of this level shows a lode about 3 feet wide. No. 2 level south is being driven on a poor lode, the three stopes in the back of this giving an assay value of 1 ounce per ton, sample taken from a lode averaging 4 feet wide. In No. 1 south we have a very promising lode about 15 inches wide. It has given an assay value values of 19 dwts. 2 grains and indicates an early improvement. The lode in a rise above this level is 3 feet wide, yielding by assay 1¼ ounce to the ton. We have commenced crosscut from main adit to shaft. When this important work is completed we shall have far greater facilities than at present for the exploiting of mineral from and above this level and a saving in our pumping power.—Cordoba. There is little new here to report on. We made good progress in sinking below No. 7, the object being, as before stated, to ventilate No. 8. We have one or two stopes in this last that yield a fair amount of good milling ore, but nothing of importance can be done until we have something better than the artificial ventilation that serves us but badly to-day.—Tigrito. In the No. 6 level west the lode has fallen off both in size and value, assay having given 16 dwts. to the ton. A rise in the back of this level is giving 16 dwts. 8 grains per ton. Three stopes in the back of this level are being wrought on a lode some 2 feet wide, yielding 2½ ounces to the ton of mineral. The lode in No. 6 level east has greatly improved, it is 15 inches wide, enclosed by well defined walls, and gives an assay value of 2½ ounces per ton. The prospects here are very cheering.—Marmajito. In the Marmajon adit east the lode looks promising. Driving is suspended pending improved ventilation, which we shall acquire by means of a rise from the bottom of end to surface, and which we hope to see shortly completed. Marmajito No. 2 end east has failed considerably in value and size, being worth to-day 1 ounce to the ton, and about 2 inches wide. A stope in the back of this level gives an assay value of 4 ounces 8 dwts. per ton. We have an improvement in No. 2 level west, the lode being 2 feet wide, and worth according to assay 1½ ounces per ton. A stope in the back of this is not quite as good as it was, but larger and has slightly improved in quality. A rise in the back of this is ordered, and practically valueless. It will be holed and improve ventilation.—General. It will be seen that, on the whole, our mines are not so rich as they were, still they are looking moderately well, and in some points have shown an improvement. We have a vast amount of stoping ground, from which and with the help of some of the productive ends, we hope to produce by October a quantity of gold that will not prove alarmingly inferior to the amount realised during the present month. As I have stated in a former letter, where there are so many mines, a depression in one can be calculated soon to be met by a corresponding elevation in another. Assays must not be taken as all times as showing the real value of the point they are taken from. We often get the most conflicting results imaginable from the same place. This is probably owing to the fact that the whole mineral does not contain a uniform quantity of gold. Take, for instance, a lode 2 feet wide, it will probably be composed of quartz that only contain traces of the precious metal, but in the centre there will be spots of pyrites and strings or narrow layers of this latter mineral in a decomposed state. These are rich, and on the quantity that gets into the sample the richness or otherwise of the assay depends.—Sulphurets. I have made no move in regard to these of late, not having had time to devote to this important item. All being well I intend erecting a strong palisade at San Joaquin, within which the vast amount accumulated there will be deposited, wetted, and turned over at intervals. This will liberate a quantity of the gold, and we may decide to treat the worn mass by arrastres. We have commenced the making of bricks and shall soon have a sufficient quantity for the building of a calcining furnace, but there are so many things to do and repairs to attend to that I fear there will be a greater delay in the erecting of this than I had calculated. In the meantime we are sending home the sulphurets that will pay for doing so as fast as we can, but not so fast as we wish.—Mails. You were informed that we have dug pits for these in Maria Dame, and since are now being paved though we are sadly pinched for room. I had some of these carefully washed, and find that they contain 3 per cent. of pyrites, giving an assay value of 4 ounces to the ton, the remaining sand giving only 3 dwts. 6 grains per ton.—John Penberthy, La Salada, October 3.

It is announced that the properties agreed to be acquired by the Northern Territories Gold Fields of Australia (Limited) are now vested in the name of the company, and that the fully paid shares agreed to be issued in consideration thereof have been duly allotted to the vendors.

INDIAN.

CHAMPION REEF.—Fortnightly report of Captain James Rowe, superintendent, dated November 2:—Dalyell's shaft. This shaft has been sunk 10 feet, total depth below the 940 feet level 43 feet 3 inches. Lode 3 feet wide, assaying 1 ounce 7 dwts. 14 grains of gold per ton.—Garland's shaft. This shaft has been sunk 3 feet 3 inches, total depth 1082 feet. Lode 6 inches wide, assaying 1 ounce 6 dwts 12 grains of gold per ton. The 1040 feet level north has been driven 1 foot 6 inches, total length 334 feet. Lode 6 inches wide, assaying 1 ounce 7 dwts. 10 grains of gold per ton. Crosscut west of this level 287 feet north of shaft has been driven 4 feet 6 inches. No. 2 rise above level risen 7 feet, total height 32 feet 6 inches, Lode 2 feet wide, assaying 18 dwts. 14 grains of gold per ton. This is communicated with winze below 940 north No. 1 rise above level risen 5 feet 6 inches, total height 75 feet 9 inches. Lode 1 foot wide, assaying 1 ounce 7 dwts 21 grains of gold per ton. The 1040 feet level south driven 20 feet, total length 192 feet. Lode 2½ feet wide, assaying 1 ounce 5 dwts. 5 grains of gold per ton. No. 1 rise above level risen 12 feet 6 inches, total height 30 feet 3 inches, Lode 2½ feet wide, assaying 17 dwts. 10 grains of gold per ton. The 940 feet level north driven 15 feet 6 inches, total length 194 feet 9 inches. Lode 1 foot wide, assaying 1 ounce 3 dwts. 13 grains of gold per ton. The 840 feet level north driven 14 feet 9 inches, total 1805 feet. Lode 3 feet wide, assaying 1 ounce 8 dwts. 4 grains of gold per ton. No. 6 rise above level risen 11 feet 3 inches, total height 28 feet. Lode 1½ feet wide, assaying 1 ounce 8 dwts. 14 grains of gold per ton. Incline winze below level sunk 9 feet 6 inches, total depth 57 feet. Lode 4 feet wide, assaying 1 ounce 1 dwt. 21 grains of gold per ton. Level driving north from bottom of winze below 740 north has been driven 11 feet 6 inches, total length 147 feet 6 inches. Lode 1 foot wide, assaying 16 dwts. 11 grains of gold per ton. This is communicated with 646 south of Ribbledale's shaft. Winze below 740 north sunk 4 feet 3 inches. No sample.—Ribbledale's shaft. This shaft has been sunk 7 feet, total depth 831 feet. Lode small, and without value. The 740 feet level north on west part of lode has been driven 27 feet, to at length 253 feet 9 inches. Lode 6 inches wide, assaying 11 ounces 6 grains of gold per ton. The 740 feet level south on east part of lode driven 25 feet 3 inches, total length 241 feet 9 inches Lode 1 foot wide, assaying 1 ounce 15 dwts. 12 grains of gold per ton. No. 1 new rise above level 89 feet south of shaft risen 5 feet. Lode 2 feet 3 inches wide, assaying 1 ounce 21 grains of gold per ton. The 640 feet level south of east crosscut driven 8 feet 6 inches, total length 482 feet 9 inches. This is communicated with level north of winze below 740 north of Garland's shaft. No. 3 rise above level risen 6 feet 5 inches, total height 20 feet 6 inches. No sample taken.—Carmichael's shaft. This shaft has been sunk 4 feet 9 inches, total depth below the 640 feet level 100 feet 3 inches. The shaft now being deep enough, we have started to drive north and south at the 740 feet level. The 640 feet level driving north from middle part of fold has been driven 20 feet 6 inches, total length 105 feet 6 inches. Lode 1 foot 3 inches wide, assaying 1 ounce 4 dwts. 1 grains of gold per ton. The 540 feet level driving back south from 540 north on east part has been driven 25 feet 3 inches, total length 113 feet 9 inches. Lode 6 feet wide, assaying 1 ounce 1 dwt. 10 grains of gold per ton. New incline winze below 540 north on west part of fold on back of shoot has been sunk 5 feet 6 inches. Lode 1 foot wide, assaying 1 ounce 3 dwts. of gold per ton. Rise above 440 north of crosscut east of shaft risen 5 feet 3 inches, total height 37 feet. Lode 6 feet wide, assaying 1 ounce 2 dwts. 14 grains of gold per ton.—Rowe's shaft. This shaft has been sunk 14 feet 6 inches, total depth below the 615 feet level 93 feet. Lode 2½ feet wide, assaying 1 ounce 8 dwts, 1 grains of gold per ton. The 615 feet level north of shaft has been driven 11 feet 6 inches, total length 182 feet. Lode 6 inches wide, assaying 10 dwts. 12 grains of gold per ton. This having reached the boundary is suspended.—Two vertical shafts. This shaft has been sunk 11 feet 3 inches, total depth 293 feet. The strata is without change.—Stopes, Dalyell's shaft. New stope above 90 north of No. 2 north rise cut 5 fathoms 3 feet 9 inches. Lode 1½ foot wide, assaying 1 ounce 2 dwts. 6 grains of gold per ton. New stope south of rise cut 6 fathoms 3 feet 3 inches. Lode 1½ foot wide, assaying 1 ounce 18 dwts. 12 grains of gold per ton. New stope north of No. 1 rise cut 2 fathoms 2 feet 3 inches. Lode 1½ foot wide, assaying 1 ounce 3 dwts. 6 grains of gold per ton. New stope south of rise cut 1 fathom 5 feet. Lode 1½ foot wide, assaying 10 dwts. 12 grains of gold per ton. Stope above 840 south of shaft cut 1 fathom 1 foot 3 inches. Lode 3 feet wide, assaying 1 ounce 1 dwt. 12 grains of gold per ton. Stope above 840 north of No. 2 north rise cut 2 fathoms 1 foot 9 inches Lode 4½ feet wide, assaying 1 ounce 4 dwts. 14 grains of gold per ton. Stope south of rise cut 5 fathoms 2 feet. Lode 3 feet 9 inches wide, assaying 1 ounce 2 dwts. 6 grains of gold per ton. Stope north of No. 1 rise cut 2 fathoms 1 foot 3 inches. Lode 3 feet wide, assaying 1 ounce 4 dwts. 12 grains of gold per ton. Stope south of rise cut 3 fathoms 4 feet 9 inches. Lode 3 feet wide, assaying 1 ounce 10 grains of gold per ton. Stope below 620 north of north winze cut 1 fathoms 3 feet. Lode 2½ feet wide, assaying 19 dwts. 14 grains of gold per ton. Stope above 620 south of 530 south winze cut 9 fathoms 5 feet. Lode 2½ feet wide, assaying 1 ounce 7 dwts. 6 grains of gold per ton. Stope north of winze cut 5 fathoms 4 feet 6 inches. Lode 3 feet wide, assaying 1 ounce 1 dwts. 15 grains. of gold per ton.—Garland's shaft. Stope above 940 north of No. 4 north rise cut 9 fathoms 3 feet. Lode 2½ feet wide, assaying 1 ounce 5 dwts. 21 grains of gold per ton. The stope north of the No. 3 rise is cut 7 fathoms 9 inches. The lode is 2½ feet wide, assaying 1 ounce 6 dwts. 12 grains of gold per ton. Stope south of rise cut 16 fathoms 1 foot. Lode 7 feet wide, assaying 1 ounce 5 dwts 5 grains of gold per ton. Stope above 840 north of No. 3 north rise cut 5 fathoms 3 feet 6 inches. Lode 6 feet wide, assaying 1 ounce 6 dwts. 12 grains of gold per ton. Stope north of No. 2 rise cut 12 fathoms 3 feet. Lode 3 feet wide, assaying 1 ounce 10 dwts. 20 grains of gold per ton. Stope south of rise cut 3 fathoms 5 feet 3 inches. Lode 2 feet wide, assaying 1 ounce 7 dwts. 12 grains of gold per ton. Stope above 740 north of No. 7 north rise cut 7 fathoms 2 feet. Lode 2½ feet wide, assaying 1 ounce 3 dwts. 6 grains of gold per ton. Stope north of No. 6 rise cut 16 fathoms 3 feet 3 inches. Lode 5 feet wide, assaying 1 ounce 6 dwts. 12 grains of gold per ton. Stope south of No. 5 rise cut 4 fathoms 3 feet 6 inches. Lode 2 feet wide, assaying 1 ounce 5 dwts. 15 grains of gold per ton. Stope north of No. 3 rise cut 4 fathoms 3 inches. Lode 3 feet wide, assaying 1 ounce 2 dwts. 18 grains of gold per ton. Stope south of rise cut 4 fathoms 2 feet 3 inches. Lode 4 feet wide, assaying 17 dwts. 10 grains of gold per ton. Stope north of No. 2 rise cut 1 fathom 3 feet. Lode 3 feet wide, assaying 1 ounce 8 dwts. 8 grains of gold per ton. Stope above 640 north of north winze cut 9 fathoms 4 feet 6 inches. Lode 3 feet wide, assaying 1 ounce 12 dwts. 16 grains of gold per ton. Stope north of 740 No. 6 north rise cut 14 fathoms 1 foot 3 inches. Lode 3 feet wide, assaying 16 dwts. 12 grains of gold per ton. Stope north of 740 No. 5 north rise cut 4 fathoms 1 foot 3 inches. Lode 3 feet wide, assaying 1 ounce 12 dwts. 18 grains of gold per ton. Stope north of 740 No. 4 north rise cut 7 fathoms 4 feet. Lode 4½ feet wide, assaying 1 ounce 11 dwts. 20 grains of gold per ton. Stope south of rise cut 11 fathoms 9 inches. Lode 4 feet wide, assaying 1 ounces 8 dwts. 16 grains of gold per ton. Stope north of 740, No. 3 north rise, cut 2 fathoms 5 feet 6 inches. Lode 2½ feet wide, assaying 1 ounce 6 dwts, 12 grains of gold per ton. Stope above 630, south of No. 1 north rise cut, 11 fathoms 3 feet 3 inches. Lode 6 feet wide, assaying 1 ounce 9 dwts. 18 grains of gold per ton. Stope above 640, south of west crosscut, cut 9 fathoms 2 feet. Lode 7½ feet wide, assaying 1 ounce 3 dwts. 12 grains of gold per ton. Stope above 520, south of No. 8 north rise, cut 8 fathoms 4 feet 6 inches. Lode 6 feet wide, assaying 1 ounce 4 dwts. 21 grains of gold per ton. Stope north of No. 7 rise cut 1 fathom 5 feet 3 inches. Lode 3 feet wide, assaying 1 ounce 8 dwts 6 grains of gold per ton. Stope south of No. 6 rise cut 1 fathom 5 feet 9 inches, Lode 4½ feet wide, assaying 1 ounce 3 dwts. 18 grains of gold per ton. Stope north of No. 2 rise cut 10 fathoms 1 foot. Lode 5 feet wide, assaying 19 dwts. 14 grains of gold per ton. Stope south of rise cut 8 fathoms 4 feet 9 inches. Lode 5 feet wide, assaying 1 ounce 2 dwts. 21 grains of gold per ton. Stope below 530, north of 640, No. 2 north rise cut 8 fathoms 4 feet 6 inches. Lode 2 feet wide, assaying 1 ounce 6 dwts. 12 grains of gold per ton. Stope south of rise cut 4 fathoms. Lode 3 feet wide, assaying 1 ounce 7 dwts. 10 grains of gold per ton. Stope north of 630 No. 1 north rise cut 4 fathoms 5 feet. Lode 4 feet wide, assaying 1 ounce 2 dwts. 12 grains of gold per ton. Stope south of rise cut 3 fathoms 3 feet. Lode 5 feet wide, assaying 1 ounce 6 dwts. 12 grains of gold per ton. Stope north of No. 2 rise cut 12 fathoms 4 feet 6 inches. Lode 6 feet wide, assaying 1 ounce 6 dwts. 12 grains of gold per ton. Stope south of rise cut 3 fathoms 4 feet 9 inches. Lode 3 feet wide, assaying 1 ounce 8 dwts. 12 grains of gold per ton. Stope below 440 north of No. 3 north winze cut 6 fathoms 4 feet 9 inches. Lode 5 feet wide, assaying 1 ounce 5 dwts. 21 grains of gold per ton. No. 1 stope above 440 south on fold cut 3 fathoms 1 foot. Lode 4½ feet wide, assaying 1 ounce 12 dwts. 13 grains of gold per ton. No. 2 stope cut 3 fathoms 4 feet 3 inches. Lode 8 feet wide, assaying 1 ounce 8 dwts. 10 grains of gold per ton. No. 3 stope cut 9 fathoms 4 feet 6 inches. Lode 8 feet wide, assaying 1 ounce 8 dwts. 12 grains of gold per ton. Stope on east part in bottom of 440 north cut 3 fathoms 4 feet 9 inches. Lode 5 feet wide, assaying 1 ounce 5 dwts. 21 grains of gold per ton No. 1 stope in back of 440 north on east part cut 2 fathoms 1 foot. Lode 3 feet wide, assaying 1 ounce 4 dwts. 8 grains of gold per ton. No. 2 stope on east part cut 1 fathom 2 feet 6 inches. Lode 3 feet wide, assaying 1 ounce 9 dwts. 14 grains of gold per ton. Stope below 225 north of north winze cut 6 fathoms 4 feet 9 inches. Lode 5 feet wide, assaying 1 ounce 7 dwts. 10 grains of gold per ton. Stope south of winze cut 4 fathoms 5 feet 9 inches. Lode 2 feet wide, assaying 1 ounce 15 dwts. 8 grains of gold per ton.—Rowe's shaft. Stope above 615 north of shaft cut 3 fathoms 3 feet. Lode 3½ feet wide, assaying 1 ounce 12 dwts. 20 grains of gold per ton. Stope above 515 north of south winze cut 2 fathoms 4 feet 3 inches. Lode 3 feet wide, assaying 1 ounce 8 dwts. 8 grains of gold per ton. Stope below 415 north of north winze cut 3 fathoms 3 feet 9 inches. Lode 1½ foot wide, assaying 1 ounce 16 dwts. 14 grains of gold per ton. Stope south of winze cut 2 fathoms. Lode 1½ foot wide, assaying 2 ounces 6 dwts. 4 grains of gold per ton. Stop above 315 north of south rise cut 8 fathoms 5 feet 6 inches. Lode 3½ feet wide, assaying 1 ounce 16 dwts, 12 grains of gold per ton. Stope above 415 north of shaft cut 2 fathoms 3 feet 9 inches. Lode 2 feet wide, assaying 1 ounce 12 dwts. 6 grains of gold per ton. Stripping down shaft below 315 feet level 14 feet 6 inches, total depth below level 34 feet 6 inches. No sample. The above stoping is for October month.—Returns. During October month 7050 tons of stuff was milled, producing 7403 ounces of gold. 2400 tons of tailings were treated, producing 599 ounces of gold, making a total production for the month of 8304 ounces of gold.

AUSTRALIAN AND NEW ZEALAND.

BROKEN HILL PROPRIETARY BLOCK 10.—Mine manager's report for week ending September 30:—Campbell's shaft, 615 feet level. Sinking of winze in bottom of this level resumed, 5 feet sunk during week, total depth 50½ feet. Bottom of winze has entered the intrusive rock, and will most likely continue in that material until the 715 feet level is reached. Stopes in back of 615 feet level without marked change, continuing to yield sulphide ore, assaying 20 ounces silver, 18 per cent. lead, and 30 per cent. zinc.—Kelly's shaft, 615 feet level. Stopes at this level yielding ore assaying 16·75 ounces silver, 20·5 per cent. lead, and 29 per cent. zinc.—515 feet level. Stopes are producing ore assaying 18 ounces silver, 22 per cent. lead, and 28·5 per cent. zinc.—465 feet level. Stopes here yielding ore assaying 25 ounces silver, 27 per cent lead, and 26 per cent. zinc.—415 feet level. Stopes at this level producing ore assaying 28·5 ounces silver, 23 per cent. lead, and 27·5 per cent. zinc. Surface tunnel advanced 6 feet, total length 6 6½ feet. This work now finished, and only waiting for delivery of trucks to enable up to commence filling the stopes. Concentration plant treated 1577 tons crude ore, assaying 20 ounces silver, 20 per cent. lead, and 28 per cent. zinc, producing 354 tons 8 cwts. concentrates, assaying 32·4 ounces silver, 61·5 per cent. lead, and 8·9 per cent. zinc. Ore despatched for week 1320 tons 8 cwts., containing roughly 711 tons 1 cwt. 3 qrs. lead, and 40,931 ounces silver.

CHAFFERS.—The following report dated October 9 has been received from the company's managers, Messrs, Bowes Scott and Co., Coolgardie: No. 2 shaft sunk 3 feet, total 104 feet. As intimated in our last report the labour has been concentrated to sinking No. 2 shaft. This has been deepened 3 feet, total 105 feet, and the country passed through is hard diorite. Owing to the non-arrival of the machinery, application was made and exemption granted for a period of one month from the 8th inst. All work has been suspended on your property for the present.

CURTIN DAVIS PROPRIETARY.—Mine manager's report for week ending October 3:—420 feet level driven 6 feet, total 251 feet. The end of the drive is now in a line with the course of the lode driven on for the last 100 feet. The hanging wall is turning again as if making to the usual course. The lode formation is 2 feet wide, with a 6 inch vein of iron pyrites, yellow copper, fahl ore, and a little galena against the hanging wall. Winze below this level sunk 5 feet, total 16 feet. Lode somewhat broken and underlying 1 in 2. There is 1 foot wide of siderite, yellow copper, and a little galena on the hanging wall side. The winze is going down in a broken part of the lode, the lode being more regular in the 420 feet level, and also in the 560 feet level below than in the winze—560 feet level driven 6 feet, total 254 feet. Lode 3 feet wide, with a vein 3 inches thick on the footwall showing copper pyrites. Winze below this level sunk 4 feet, total 34½ feet. Lode 2 feet 3 inches wide of siderite yellow copper and fahl ore, This lode is between two good walls, and is going down very regular and opening up well.—331 feet level driven 3½ feet, total 247 feet. The lode here is 2½ feet wide with 1 foot of good payable ore against the hanging wall. The country is better for boring, but the ground shoots badly. 840 feet level driven 6 feet, total 222 feet. There is now 1 foot wide of iron pyrites and copper pyrites with fahl ore against the hanging wall, and the face looks much better than for some time past. 1000 feet level driven 4 feet, total 74 feet. Lode 2 feet wide, of quartz and iron pyrites, and showing more fahl ore, also a little copper pyrites, the first we have seen in this drive. The prospects in this level are improving every day, the lode showing strong and well defined, and is now carrying a little high grade ore.—Mine manager's report for week ending October 10; 420 feet level driven 7 feet, total 258 feet. Lode formation 4 feet wide, between two good walls, but we are still in the fault which turned the course of the lode. Winze below this level sunk 3 feet, total 43 feet. Lode 8 feet wide, with 1 foot of ore against the hanging wall, mostly siderite, with a little fahl ore and copper pyrites. 560 feet level driven 7 feet, total 261 feet. Lode formation full width of drive, with veins of copper pyrites and iron pyrites making in the face. Winze below this level sunk 4 feet, total 38½ feet. Lode 2 feet wide of siderite copper pyrites and fahl ore going down strong. 680 feet level driven 4 feet, total 251 feet. Lode 3 feet wide between walls with 9 inches of ore on the hanging wall, and 4 inches on the footwall, carrying high grade fahl ore and yellow copper. The ground here has improved a little during this week. 840 feet level driven 5 feet, total 227 feet. The lode improving in quality, showing more fahl ore and getting more defined. There is a foot wide of ore against the hanging wall, which is well defined and letting down a lot of water. 1000 feet level driven 3 feet, total 77 feet. Lode 2 feet wide, with 6 inches against the hanging wall, carrying high grade fahl ore in increased proportion, and looking very promising for the future of this level.—Assays. 1000 feet level, iron pyrites, 1 ounce 9 dwts. 19 grains silver per ton, gold trace.—420 feet level. Copper pyrites in carbonate of iron, 52 ounces 5 dwts. 8 grains silver per ton, 1·7 per cent. copper.—560 feet leve. Copper pyrites in carbonate of iron 51 ounces 17 dwts. 14 grains silver per ton, 1·3 per cent. copper.—1 000 feet level. Fahl ore 603 ounces 0 dwt 12 grains silver per ton, 10·2 per cent. copper, 5·3 per cent. bismuth.—420 feet level. Copper pyrites in carbonate of iron 39 ounces 4 dwts. silver per ton, 10·3 per cent. copper.—560 feet level. Copper pyrites 50 ounces 14 dwts 3 grains silver per ton, 24 1 per cent. copper.—680 feet level. Fahl ore 581 ounces 1 dwt. 20 grains silver per ton, 21 5 per cent. copper, 26·8 per cent. bismuth.—840 feet level. Copper and iron pyrites 18 ounces 5 dwts. 21 grains silver per ton, 2 4 per cent. copper.—1 00 feet level. Fahl ore and iron pyrites, 283 ounces 3 dwts. 4 grains silver per ton, 13·5 per cent. copper, 8·2 per cent. bismuth.

GRAVEL GOLD MINES.—October 21:—Run No. 13 continued During the month washing was continued on the west side of the Rea bank, and after a run of 63 days, during which time we have worked 1161 hours. On October 12 we started cleaning down, and on the 14th cleaned up 82oz. I only cleaned up the first 300 feet of the sluice, as it was necessary to continue washing on the Rea bank during run No. 13, and I did not wish to waste more time than necessary reblocking. The result of the clean up gives a small profit over expenses. Our water supply has now increased, and the ditches and syphons are all in order.—Note During run No. 13 we only had 300 to 400 miners' inches of water owing to the dry season.

GRIERSON'S.—The manager under date of October 10 reports as follows:—Have sunk shaft to a depth from the surface of 45 feet. The country passed through is the same as last reported, the reef still looking well and maintaining it original width and quality.—Note, In the mine manager's first report after striking this reef it was 2 feet wide and showing visible gold.

HANNAN'S LODE.—The following report dated October 10 has been received from the company's managers, Messrs. B. J. McCulloch and Co., Kalgoorlie:—During the fortnight the men have been engaged on surface work, clearing away dead wood and scrub in the vicinity of the camp and workings as a prevention against bush fires, erecting bough sheds over shafts, tanks, and buildings, and other work necessary before the setting in of the summer. No. 3 shaft has been sunk a further depth of 1 foot, making a total depth of 92 feet, which corresponds with the 110 feet level of No. 1 shaft. A crosscut has been commenced to connect with that from No. 1 shaft. This crosscut has been driven 15 feet through country hard and difficult to shoot. Towards the bottom of the shaft eruptive rock of the nature of diabase was met with in contact with the schistose. The crosscut mentioned above is now passing through a series of veins of decomposed schist and segregated quarts all carrying gold. I consider present appearances highly encouraging and strongly indicative of payable deposits of gold at a lower level when the settled country is reached. The occurrence of masses of jasperry quarts at the present level prove the advisability of deeper sinking, as jasperry quartz is formed from siliceous clay iron by atmospheric action, and is never found in settled country. Surface work is now completed, and underground work can now be pushed forward.—Connolly.

HAMPTON PLAINS ESTATE.—The following is an extract from the company's engineers' (Messrs. Bewick, Moreing and Co.) report for the month ending October 10, which is just to hand:—Block 59. The Hampton Plains Exploration Company have returned to their old selection, from which they are stoping some good looking stone for a trial crushing.—Block 53. The Hampton Gold Fields (Limited) are still carrying on development work on their selections, which has a promising outlook, the stone continuing to carry fine gold.—Block 48. In our last report we informed you that we had been successful in picking up on the northern boundary of the reef which traverses the London and West Australian Exploration Company's selection. The reef was first met with in a costean at a depth of 22 feet. We have now cut down the sides and timbered up a shaft which will enable us to follow the reef down on the underlay. We are pleased to be able to report that the reef improves as we go down, and shows a fair prospect of fine gold in the dish. We are sinking a shaft on the reef which crosses the northern boundary of the Hampton Gold Fields, No. 1 block, and referred to in our last report. This we will put down with two shifts, so as to quickly determine its value.—Coolgardie Waterworks (Limited). The pipes have been deposited along the entire line from Cane Grass flat to Coolgardie. The selection of the blocks of land along the pipe line, to which the waterworks company are entitled by their agreement, is receiving their attention, and a surveyor is now engaged on the work.—Official note. Since the above came to hand we have been advised that the Coolgardie Waterworks (Limited) have received a cablegram stating that:—"The pumps are now delivering condensed water into Coolgardie."

LADY MAUDE.—The manager under date of October 14 reports as follows:—Surprise main shaft. Have completed the timbering of the chamber and fixed the collar set at the No. 1 level and will resume sinking to-morrow, and will also continue driving on the reef northward. There is no change in its appearance since last report.—Water shaft. I reported last week having decided to close up the old contract and resume work by day labour. Since then I have relet the sinking of the shaft for a further depth of 50 feet at £21 per foot. This will bring us on the same as the Maude No. 1 level.—Maude main shaft. I have continued crosscutting east 5 feet, making a total of 15 feet from shaft. As I anticipated I have got into the reef formation. The quartz is very highly mineralised and close grained which has made driving very slow work More water is coming in the face than ever, Have not yet tried any of the stone, but from its general appearance it is all right. Will let you know next week by which time I shall be more in the reef.

MOUNT LYELL MINING AND RAILWAY.—Engineer in charge of mine reports for week ending October 2: No. 1 tunnel drive extended 4 feet, total 115 feet. No. 1 tunnel, north drive, drive extended 4 feet, total 84 feet. No. 3 tunnel, main crosscut, south drive, drive extended 6 feet, total 93 feet. No. 3 tunnel, main crosscut, north drive, drive extended 7 feet, total 51 feet No. 4 tunnel, south drive, drive extended 4 feet, total 585 feet. Drive turning at almost at right angles to the left. No. 4 tunnel, south drive, No. 3 crosscut, drive extended 3 feet, total 123 feet. No. 4 tunnel, south drive, No. 3 rise, rise put 4 feet, total 47 feet.—Surface work. No. 1 bench. Removal of overburden continued at both north and south ends.—No. 2 bench. Removal of overburden and breaking of ore for smelters continued.—No. 2½ bench. Stripping footwall continued.—Chief metallurgist reports for week ending October 2: Smelting plant. Blast furnace No. 1 in operation, No. 2 ready to blow in. Slag dump siding delayed by subsidence. Laying delivery pipe from supply pump to service tank.—Convertor plant. Minor carpenter work of building in progress, erecting trestles for slag runaway of resmelting furnace.—Boilers. Brickwork in progress.—Blowing engine. Steam and air cylinders in place lining up, &c., in progress.—Converters. Masonry of foundations in hand, all bolts in place.—Resmelting furnace. Upper jacket mounted Weather fair.—Railway engineer reports for week ending October 4. Very satisfactory progress is being made with the laying of the rack, and a total length of 1¼ miles completed to date.—The following memorandum has been received by this company's London office from the head office at Melbourne:—The board beg to announce that the second furnace was blown in on October 6, and the chief metallurgist reports it is running satisfactorily. The board have decided to proceed immediately with the extension of the present reduction plant by the erection of two additional ore furnaces of a similar capacity to those already erected, bringing the ore furnaces up to four, which are being constructed to have a total capacity of 500 tons of ore per day. In addition to the above a matte concentration furnace will be erected capable of treating the whole of the first matte produced by the four ore furnaces, as the latter will be constantly running on ore. Plans and specifications of the new furnaces are now being prepared, and tenders will be invited forthwith. Further additions will be considered at a future date, so as to bring up the plant to a daily capacity of 1000 tons of ore as originally contemplated.

MOUNT MALCOLM PROPRIETARY.—Coolgardie, September 30:—Under this date Mr. J. Wilson Archibald, consulting engineer, wrote an exhaustive account of the progress at the property. The following are extracts:—Eureka. The shaft was at that time down 93 feet, and we are since advised that it has reached a depth of 102 feet. We are pleased to say the reef maintains its size and value, averaging about 1 foot 6 inches, and the value is still surprisingly rich. An average sample of the ore broken from 80 feet to 93 feet gives the following results—4 ounces 5 dwts. per ton free gold recovered by amalgamation, and 1 per cent. of concentrates, which on oxidising yielded by amalgamation gold to the value of 5 ounces 10 dwts. 20 grains per ton of ore crushed, giving a total ore value of 9 ounces 15 dwts. 20 grains per ton. That of concentrates cleaned down to 1 per cent. of original bulk have a value of 775 ounces 16 dwts. 16 grains per ton of concentrates. This high value is very important, as the resulting concentrates are of such high value that they are fit to be bagged for the market. It is hardly expected, however, that the average concentrates from the property will maintain the value, as from other parts of the property the sulphides may be heavier, and of lower value. Throughout all the leases north of the Eureka the reefs have been exposed in deep costeans, which show that the gold bearing quartz is continuous throughout the property. Of course some places are much richer than others, but at present we have found no actual blanks, though doubtless there will be certain lengths of stone that will not average above ½ ounce per ton. On the Juliet lease the old underlay shaft has been straightened, and sinking resumed. There was a short fault to north-west at the bottom of the old shaft, but the reef is again in the shaft and shows free gold and pyrites. From surface prospecting along the outcrop, and from the evidence of specimens found on the surface, it would appear that there is a very rich chute of stone in the vicinity of the Juliet shaft, consequently we have started a No. 2 underlay shaft on the vein, some 300 feet south of No. 1, with a view of connecting at the 100 feet level, and in making this connection we should cut any rich chute going down between the two shafts named. In the meantime both shafts are in good ore. It is our intention to run the Eureka and Juliet shafts down as quickly as possible, with a view of testing the water supply, and from the character of the enclosing rocks we are in hopes of striking moderately fresh water. We are also starting a water shaft in the valley, about 12 chains north of Juliet shaft, with a view of cutting the reef at about 120 feet, at which depth we reckon also on reaching water. On the Friday block we are also starting a straight shaft to cut the big reef at about 100 feet, and expect to strike water here quite fresh. Generally speaking the development to date is satisfactory, and the value of the property is increasing. When our water supply is made, and our 200 feet and 300 feet levels are open, we hope to see this property running a 40 stamp mill, with regular and satisfactory results. Mr. Archibald also states in his report that all the northern blocks are very suitable for flotation at subsequent dates as subsidiary companies, each block containing a good mine within itself.—Coolgardie, October 15. The mine manager cabled on this date that water had been struck on the Eureka lease, and on the 3rd inst. our consulting engineer reported by cable that the water was increasing.—Coolgardie, October 3. The mine manager reports under this date as follows: Eureka. Shaft has been sunk a total depth of 107 feet from the surface. Reef averages 2 feet thick, and is richer than anything previously seen. I estimate the best portion of the chute worth at least 25 ounces per ton. I cannot at present determine the extent of this rich deposit. Stone of the same value is to be seen in the ends of the shaft. The pieces likely to be stolen have been secured in the magazine.—Juliet. No 1 underlay shaft has been sunk a total depth of 63 feet. Reef averages quite 2 feet thick, and is worth quite 1½ ounce free gold per ton. No. 2 underlay shaft has been sunk a total of 23 feet. The reef, averaging 3 feet, is worth 1½ ounce per ton. No. 3 underlay shaft, situated 30 feet south of No 2, is 5 feet on the underlay. The reef is about 1½ foot thick, and is of the same character and value as Nos. 1 and 2. Water shaft has been sunk a total of 29 feet. Country is still satisfactory.—Little Man Friday. The labour has been confined to surface improvements during the week.—Coolgardie, October 6 Under this date Mr. Archibald writes that some general samples of ore from the Juliet Reef gave the following results:—Free gold by amalgamation 1·28 ounce per ton. Tailings value 1·60 ounce per ton. Treated with cyanide yielded 87 per cent. of that value. A general sample of the Eureka ore yielded by amalgamation 6·2 ounces per ton, and 4·5 per cent. concentrates yielding 17 ounces per ton, tailings value 1·6 ounces per ton.

CARRINGTON.—The manager writes, under date October 3: As I have previously stated, the Caledonian vein should be sunk upon, for at any time a rich patch of ore may be struck in the deeper ground. The straight shaft, too, should be deepened, for from late developments in the Prince Mine, it is more than probable that the celebrated Brilliant reef will extend through the Victory, Papuan, Band of Hope, Victoria, and the Carrington properties.

GREAT SOUTHERN TIN AND GOLD FIELDS.—Mining manager reports under date October 6 as follows:—Roads. I do not know whether you saw the *Argus* report that "the Shire Council of South Gippsland has been requested by the Mines Office to let them know whether any roads are required from Toora to the mine." I have written a letter to the council on the subject. This letter will be forwarded to the Mining Department of the Shire Council. Possibly it will do good.—Creek. I have the greater number of men at work clearing the creek of logs, also deepening the cuts through the bends. Just to show you what a splendid race the mine has, yesterday Matthew and Johnson turned the whole of the water out of the river into it. The water is now pouring down Lake Gully a small torrent. Tail race is nearing completion. Every board had to be planed at the edges to make them fit tog ther tight, so that no tin or gold should escape through the cracks when the boxes are being cleaned up.—Pipes. The head of pipes will go right up the race 230 feet perpendicular above the creek or tail race.—The mine manager reports for the fortnight ending October 10, as follows: I have to report for the fortnight that there has been 5 chains of tail race boxed and placed in position, also that the water has been run through them, and some few yards of surface put through. I find that they run well and carry stuff well. There is one thing that I have discovered, and that is that the gravel is remarkably heavy running stuff and requires a very large quantity of water to shift it along the boxes quick and speedily. I have never in all my mining life come across such heavy gravel to treat in a tail race to require such a large quantity of water, although the tail race grade is more than usual. Have cleared a part of the creek out by the removal of logs and rubbish. Am now cutting through the bends and thereby straightening the course for the tailings. The work will occupy some time before thoroughly finished, but is a valuable work when done. Have got materials ready for blacksmiths' shop, also office, in a day or two will start their erection. Have got the logs and other impediments removed off the pipe line from head race to face. Will start to lay the column from the head race so that the greatest force possible can be obtained for the nozzles, expect the pipes to be in Toora in the course of the next few days and on the mine by the end of the month. Will sluice off some of the surface of the hill so that the trees standing can be more easily grubbed and removed. Shall continue the line of boxes into the hill as soon as a cut is made by the water. Shall do this as soon as an opportunity offers. Have the timber all ready for boxing.

AUSTRALASIAN.—Fortnightly report of Mr. John James, manager, dated October 8: During the past fortnight the crosscut at the 758 feet level west from the shaft has been extended 15 feet, total 184 feet from the shaft. There is no change in the country, it still keeps very hard.—684 feet level. The crosscut at this level has been extended 20 feet, total 70 feet west from the shaft. Country same as last reported. Everything about the mine and winding engine is in good working order. The contractors, Green and Tibutt, have made a start to erect the air compressor.

BRILLIANT.—Mr. N. Mayne, manager, reports for the fortnight ending October 8: The two stopes over No. 3 level west, where I have six men working, are still carrying on an average 18 inches of stone. The stope over No. 4 west level, where I have three men working, is carrying 2½ feet of stone. The three stopes over No. 5 west level are carrying on an average 3 feet of stone, and in the footwall stope at this same level there is at present 1 foot of stone. There has been nothing further done in No. 5 east level. The three stopes over No. 6 west level are carrying on an average 2 feet of stone. In the two stopes over No. 6 east level the reef averages about 1 foot in thickness. The four stopes over No. 7 west level are carrying on an average 3 feet of stone. The single stope over No. 7 east level is at present carrying 1 foot of stone. The stope over No. 8 west level is at present carrying 4½ feet of stone. The only work further done in No. 8 east level is at the rise from the stope there. This has been advanced 10 feet, making its total height from stope 34 feet on 2½ feet of stone. Besides which to connect with this rise the more readily we have sunk 4 feet to date from this level above on 18 inches of stone. The stope over No. 9 west intermediate level is as present carrying 18 inches of stone. The two stopes over No. 9 east hanging wall drive are at present carrying 2 feet and 4½ feet of stone respectively. No. 9 east footwall drive has been further extended 20 feet, making its total length to date 35 feet, with 15 inches of stone at its present face. The two stopes over No. 10 west level are carrying on an average 2½ feet of stone. The two stopes over No. 10 east footwall drive are at present carrying 3 feet of stone. The winze also from this last-mentioned drive has been further sunk 15 feet, making its total depth to date 47 feet, with about 6 inches of stone at its present bottom, No. 10 east hanging wall drive has been further extended 27 feet, making its total length to date 164 feet with 4½ feet at its present face. The stope over No. 11 west drive is at present carrying about 10 inches of stone. The two stopes over No. 11 east footwall drive are at present carring on an average 1 foot of stone. The crosscut for the hanging wall at No. 11 east level has been driven 33 feet, making its total distance driven in this direction 73 feet, where we reached the hanging wall, and have commenced opening on it east and west. The underlie shaft was started again last Tuesday. I have not, however, reported any measurement here, the time being mainly occupied in making the necessary preparations for further sinking. Approximate output of quartz for the past fortnight 1449 tons.

BROKEN HILL PROPRIETARY, BLOCK 10.—Mine manager's report for the week ending October 7:—Campbell's shaft, 615 feet level. Winze in bottom of main crosscut sunk 4 feet, total 54½ feet, rock in bottom principally quartz and felspar. Very hard stopes in back of level producing milling ore assaying 21 ounces silver, 18·5 per cent. lead, and 29·5 per cent. zinc.—Kelly's shaft, 615 feet level. Stopes yielding ore assaying 16 ounces silver, 21 per cent. lead, and 29 per cent zinc.—515 feet level. Stopes producing ore assaying 19 ounces silver, 16·5 per cent. lead, and 28·5 per cent. zinc.—465 feet level. Stopes producing ore assaying on an average 20 ounces silver, 28·5 lead, and 29 per cent. zinc.—415 feet level. Stopes producing ore assaying 27·5 ounces silver, 23 per cent. lead, and 28 per cent. zinc. Surface tunnel sufficiently advanced enable us to commence filling stopes. For five days plant treated 1233 tons crude ore, assaying 20 ounces silver, 20 per cent. lead, and 29 per cent, zinc, producing 310 tons concentrates, assaying 32·7 ounces silver, 63·2 per cent. lead, and 9·7 per cent. zinc, showing a recovery of 79·19 per cent. lead and 41·04 per cent. silver, without high grade slimes. Ore despatched for week 893 tons 2 cwts., containing roughly 398 tons 11 cwts. lead and 28,509 ounces silver.

BRITISH BROKEN HILL PROPRIETARY.—Mining manager's report for week ending October 15. Blackwood shaft. 50 feet level. Are preparing to stope carbonate ore again in the east vein on this level.—100 feet level. The usual supply of carbonate ore was mined from the southern section, and east vein stopes. The southern sections produced 479½ tons. The stopes in the eastern vein 66¾ tons lead ore.—200 feet level. The sulphide stope off No. 1 west crosscut is producing ore as required for milling requirements. 366 tons of sulphide ore was mined from here. The southerly drive of No. 4 west crosscut driven 7 feet, total 38 feet. Face showing fair grade sulphide ore. 33 tons was broken from here.—Howell shaft, 100 feet level. Far north stopes yielded 647 tons of carbonate ore, the faces on the various floors are looking well.—200 feet level. The sulphide stope off No. 2 west crosscut is opening up well, and 322 tons of sulphide ore was mined for the mill. Are now getting ready for stoping in the east vein on this level. The incline winze was sunk 5 feet, making its total depth 45 feet. Bottom in fair grade ore. 6 tons was hoisted to the surface.—300 feet level. Very little work was done in south drive off west crosscut during the past week. The stopes off east crosscut yielded usual quantity of good grade lead sulphides, 169 tons being broken from here. Are preparing for stoping sulphides in south drive off west crosscut. Total raised for the week 2147 tons. The mill has been running well during the week.—Week's assays. Crude carbonate ore. Lead from 26·5 to 52·5 per cent. Silver from 2·2 to 15 ounces per ton.—Sulphide ore. Lead from 16 to 65·5 per cent. Zinc from 16 to 25 per cent. Silver from 7 to 14 ounces per ton.—Cable advice, November 23. 5075 tons crude ore produced, 1265 tons concentrates, containing 803 tons lead, and 18,779 ounces silver.

CENTRAL EXPLORATION AND INVESTMENT CORPORATION.—The following is the mine manager's report on Great Hanover Mine for fortnight ending October 1: East shaft. Driving 100 feet level north, driven 6 feet, making a total of 64 feet, average yield per ton 5 dwts. This work has been suspended.—Sinking north shaft. Sunk 5½ feet, making a total depth of 74 feet, ore showing light colours. This shaft, being on the north boundary, we intend to sink here to 100 feet to prove the lode, which has a strong appearance.—Sinking air shaft. North of east shaft sunk 7 feet, making a total depth of 49 feet, average yield per ton 5 dwts. We intend sinking this to the 100 feet level; driven from east shaft. The carpenters will finish the new derrick over main shaft in a few days some portions of the hoisting plant have arrived and are being put in position. As soon as the remaining parts arrive we shall place the same in position, and resume the sinking of the main shaft and the driving of the 147 feet level north, with all possible speed.

CONTINENTAL AND WESTERN AUSTRALIAN TRUST.—Information received from the company's manager, Mr. Edward Hooper:—Champion Leases. The mine manager's reports continue to be most favourable. The reef shows rich gold wherever struck. Prospecting is being vigorously pursued on the Champion North.—Property at Lawler's. An option has been secured on some exceptionally promising leases, from which assays taken over a large and regular formation have given very high results.

CONTINENTAL AND WESTERN AUSTRALIAN TRUST.—The following information is to hand from the company's manager in the colony, Mr. Edward Hooper; Abbott's lease. This property is being actively developed, and a large amount of driving is being done with excellent results.—Option at Lawler's. Your engineers report very high assay returns from samples taken from this property. At 92 feet level samples returned 5 ounces 6 dwts. 6 grains, and 11 ounces 10 dwts. 8 grains per ton respectively. The outcrop of reef gave 2 ounces 4 dwts. 16 grains, and other assays over a large formation gave from 1 ounce 17 dwts. 13 grains to 7 ounces 13 dwts. 7 grains per ton. The option agreement has been finally concluded, and a manager will be put in possession on your behalf.

CRAVEN'S CALEDONIA.—The following fortnightly report has been received from the mine, dated Charters Towers, October 8:—The crosscut going west from No. 8 level has been extended a further distance of 6 feet, making a total of 43 feet. At this point we have holed through into the Caledonia block stopes, and the reef averages about 7 inches thick. No. 7 level on the hanging wall reef has been extended a further distance of 7 feet, making a total of 153 feet from the starting point. The reef in this level has pinched to a little during this fortnight. In the nine stopes over this level the reef averages from 6 to 9 inches in thickness. The haulage of quartz for the company for this fortnight is 50 tons, making a total of 54 in the paddock. Hooper and party over No. 6 level have got about 10 tons of stone broken. Gribbon and party in the Victoria reef are doing fairly well.

EAST MURCHISON UNITED.—Extract from mine manager's report, dated October 3: Great Eastern Consols. A truck line north from Dunsford's shaft to plat shoot No. 1 on the Great Eastern lode, a distance of 35 feet, has been laid down. From this point a leading stope east has been taken in 50 feet, and 40 feet of the level securely timbered. The lode is 4 feet in width, of good quality, stone showing coarse and fine gold. This stone is sent to the mill as it comes to the surface. Crosscut south from No. 1 shaft has been advanced 16 feet, total length 141 feet from the shaft. Crosscut south from Dunsford's shaft has been advanced 27 feet, total distance from shaft 97 feet. At 75 feet from the shaft a start has been made to drive east. This drive is in 16 feet, and the stone in the face worth 1 ounce per ton.

FREDERICK THE GREAT.—Copy of letter from Bendigo, dated October 19:—We have the honour to report the following progress in your mine during the past fortnight: The crosscut east from No. 5 level 630 feet from the surface and 700 feet south of the main crosscut has been driven a further distance of 22 feet, total from western or hanging wall 38 feet. Ground passed through chiefly hard sandstone and quartz spurs. In the face of this level there are 18 inches in width of quartz of promising appearance and well mixed with mundic and black jack. The winze below the No. 5 level, which is situated 526 feet south of the main crosscut, has been sunk a further depth of 8 feet, total 28 feet. The stone mentioned in last report as being 2 feet thick has cut out, and a fresh stone has made under it 5 feet thick and making larger, showing gold apparently in payable quantities. There has been only one shift of men at work in this winze owing to some of the men being off unwell. In the slope north above the intermediate level we are taking the stone 15 feet in width, and it has shown some fair gold during last week. In the slope south over the intermediate level we are taking the stone 20 feet wide, and it occasionally shows a few colours of gold. 265 loads of quartz have been raised and crushed for a yield of 80 ounces 6 dwts. of gold. This does not include any of the stone from the winze below the 630 feet level, which is of better quality and will be crushed during the coming fortnight.

LONDON AND WESTERN AUSTRALIAN EXPLORATION.—The following information is to hand by this week's mail:—Mertzy's (Mount Sir Samuel). We are very pleased to say that this property is fulfilling its promise of turning out a good one. We have had the samples the manager sent us assayed, and he rewith send you the results, highly satisfactory as you will see. One of the above mentioned samples assayed as much as 13 ounces 20 grains to the ton, the average of seven samples being a small fraction under 5 ounces.—British King (Lake Darlot). The lode has improved in opening out, and now averages 2 feet in thickness. No change has taken place in the character of the stone, it being well mineralised and showing coarse gold. A plentiful supply of water has been struck.—Find on Block 48, Hampton Plains. The stone in the north drive off No. 1 shaft is rather small at present. The stone in the drive going south off No. 2 shaft is the full width of the drive, and gold is occasionally seen in breaking.

LONDON AND WESTERN AUSTRALIAN INVESTMENT.—The following information is to hand by the last mail:—Hannan's water rights 88 to 92. The shafts on these water rights have been sunk an average of 120 feet each, and water is making in three of the shafts, in one of them between two and three thousand gallons per day. The whole of the shafts have bottomed on a very stiff black clay and iron stone, which will render boring more easy, and enable good progress to be made. A bore will be put down from water level a further depth of about 175 feet.

LONDON AND NEW ZEALAND.—The company's agents in New Zealand report:—Empress of India. Developments are making satisfactory progress. It is expected that good stone will be discovered on continuing the drive on No. 3 reef a short distance further. The crosscut to intersect the Hit or Miss reef is now in over 180 feet. The general appearance is promising.

ROYAL SOVEREIGN.—Manager's report for week ending October 15:—East crosscut driven 5 feet, making total length 30 feet. West crosscut 5 feet, total 33 feet. About 12 inches of slate was passed through in the east crosscut with a little quartz, but the country has now changed again to diorite, which, although still very hard, appears to be more favourable for working.

INDIAN.

COROMANDEL.—Superintendent's report for fortnight ending October 31: Prospect shaft, 700 feet level south. This level has been driven 31 feet 6 inches, making a total length of 84 feet. The quartz in the bottom of the level is 2 feet 6 inches wide, but tapers off in the back, giving an average width of about 1 foot 6 inches, and assays 1 ounce 4 dwts. of gold per ton. The lode still continues to form the hanging wall of the slide, and their relative position and direction have not varied since my last report.—600 feet level north. This level has been driven a distance of 21 feet, making a total length of 469 feet from the crosscut. This end is now in the dyke.—500 feet level south. The crosscut east of this level has been driven 22 feet, making a total length of 568 feet. At 560 feet we cut into a branch of quartz 6 inches wide, and assaying 3 dwts. to the ton, and have since driven 10 feet on the other side of it, which has brought us into hard rock again. We have therefore brought back the machine, and started it to drive south along the branch, as, from its direction, we are of the opinion that it constitutes the Coromandel lode.—East shaft. The skip road in this shaft has been completed down to the 440, and we are now engaged in putting in shoots at the different levels.—320 feet level south. The rise in the back of this level has been carried up 28 feet, the lode being 2 feet 6 inches wide, and assaying 15 dwts. of gold to the ton.—Coromandel shaft, 420 feet level north. This level has been driven 24 feet 6 inches, making a total length of 659 feet 6 inches. The lode in end is 2 feet wide, but has become slightly mixed, and assays 3 dwts. of gold to the ton.

GOLD FIELDS OF MYSORE.—Mine report for fortnight ending November 4: South shaft. During the fortnight we have cut hitches and put in bearers for plat, 40 feet double skip road, backings, &c., and have sunk the shaft 12 feet 6 inches, total depth from surface 603 feet 6 inches. Lode in the bottom 2 feet 9 inches wide, assaying 5 dwts. 6 grains of gold per ton. 570 feet north drive has been driven 7 feet 6 inches, total distance from shaft 71 feet 6 inches. Lode in the end 1 foot wide, assaying 2 dwts. of gold per ton. 570 feet south drive has been driven 19 feet, total distance from shaft 83 feet 6 inches. The lode in this end during the fortnight has been about 3 feet wide, and four samples taken gave an assay of 1 ounce 2 dwts, 4 grains of gold per ton. The lode in the face is 2 feet 6 inches wide, assaying 18 dwts. 7 grains of gold per ton. 470 feet north drive has been driven 15 feet 6 inches, total distance from middle shaft 28 feet 6 inches. Lode in the end 1 foot wide, assaying 3 dwts. 21 grains of gold per ton. 470 feet south drive has been driven 21 feet, total distance from shaft 383 feet 6 inches. The lode in this end has again opened out, and is now 3 feet wide, assaying 6 dwts. 12 grains of gold per ton. 470 feet south drive, winze has been sunk 11 feet 6 inches, total depth 34 feet 6 inches. Lode in the bottom 1 foot 6 inches wide, assaying 9 dwts, 3 grains of gold per ton. 380 feet south drive has been driven 17 feet, total distance from shaft 615 feet. Lode in the end 3 feet wide, assaying 2 dwts. of gold per ton.—380 feet south drive stopes. Stope north of No. 1 rise has been stoped 2 fathoms 4 feet 4 inches, assaying 10 dwts. 11 grains.—380 feet south drive No. 2 stope in back ground stoped 1 fathom 3 feet, assaying 3 dwts, 22 grains. 380 feet south drive stope below the level, ground stoped 2 fathoms 5 feet, assaying 4 dwts. 14 grains. 380 feet south drive stope north of the winze below the level, ground stoped 2 fathoms 1 foot 5 inches, assaying 11 dwts. 2 grains. 380 feet south drive, stope south of the winze below the level, ground stoped 2 fathoms, assaying 9 dwts. 3 grains.—Middle shaft. We have completed the squaring down of this shaft to the 470 feet level. We are now engaged in cutting the top plat at this level which will be completed in a few days more, when we shall again commence sinking below the level, and cutting the bottom plat at the same time.

KEMPINKOTE.—Mine report for fortnight ending November 4:—New shaft has been sunk 18 feet, making a total depth of 148 feet. There is no change in the nature of the ground, and nothing of importance has as yet been met with.—Surface. All the surface work is progressing satisfactorily. We will commence to erect the pumping engine as soon as the loading is sufficiently dry. The masonry work is now completed.

MYSORE WEST AND MYSORE WYNAAD CONSOLIDATED (Tank Mine).—Monthly report for October:—South shaft is down 584 feet 6 inches, making a progress for the month of 13 feet. 507 level No. 1 drive north on west lode is now in 274 feet 6 inches, progress 52 feet 6 inches. The lode in the end is 2 feet 6 inches wide, and seems to be pinching in somewhat, but this should be only temporary; the quartz is worth 4 dwts. 12 grains per ton. As the drive north on the east lode has holed to this drive it will in future be referred to as the 507 level north drive. 507 level No. 2 south on east lode has been stopped, the rise in back is up 21 feet 3 inches, progress 21 feet 8 inches. The lode is 1 foot wide and worth 10 dwts. per ton. 507 level No. 3 north on east lode was carried on to 218 feet 9 inches, when it holed to the 507 north on west lode at 192 feet from the crosscut. Progress in this end 23 feet 3 inches. Just before holing there were strings of quartz in the end worth 12 dwts. per ton. The winze has been sunk to 47 feet 9 inches, progress 5 feet. The water is very heavy in the bottom. Lode 2 feet wide, assaying 10 dwts. per ton.—450 level north drive. Work was resumed here in the latter end of this month. The end has been carried on to 561 feet 9 inches from the crosscuts, progress 12 feet 3 inches. There are small stringers of quartz in the end worth 5 dwts. per ton.—Stopes. 507 south No. 2 stope 4 feet wide, worth 10 dwts. per ton. 507 north No. 2 stope 2 feet wide, worth 5 dwts. per ton. 450 north stope 2 feet wide, worth 11 dwts. per ton. By knocking off the big stopes on the poor portions of the east lode we have raised the value of the quartz going to mill, but the ore is still very poor. Walker's shaft is down 137 feet 9 inches, progress 11 feet 3 inches. We are taking up the water, and this, with timbering, has caused delay in the work.

OOREGUM.—Superintendent's report for fortnight ending November 3:—Taylor's shaft sunk 2 feet. Depth below the 1060 feet level 18 feet 6 inches, and suspended whilst excavations are being made for the top and bottom plats at 1060 level. The former is completed, and with the latter we are making good progress. In excavating for plats we have discovered a branch of quartz 6 inches in width about 6 feet east of the footwall of shaft, coursing north and south, and underlying west at a greater angle than the shaft, a sample from which gave by assay 7 dwts. 15 grains of gold per ton. The 960 feet level south driven 22 feet 6 inches, total 262 feet 6 inches. Lode 2 feet 6 inches wide, assay value 2 ounces 6 grains. No. 1 rise 960 feet level south risen 7 feet, total 18 feet 6 inches. Lode rather small and mixed. No sample taken. The 960 feet level north driven 10 feet, total 132 feet 6 inches. Lode pinched. The 860 level south driven 22 feet, total 847 feet. Lode 4 inches wide, assay value 7 dwts. 15 grains. This is close on the southern boundary, therefore suspended. No. 3 winze 860 feet level south sunk 4 feet 6 inches, total 31 feet 6 inches. Lode 1 foot 6 inches wide, assay value 2 ounces 3 dwts. 13 grains. No. 1 winze 860 feet level north sunk 4 feet, total 39 feet 6 inches. Lode 1 foot 6 inches wide, assay value 8 dwts. 17 grains. No. 2 winze 86 feet level north sunk 6 feet, total 52 feet. Lode small and mixed. No sample. No. 5 winze 760 feet level south sunk 1 foot 3 inches, total 8 feet. Lode small. No sample.—Wallroth's shaft. We have pleasure in stating the water is drained to bottom of shaft, and drivages at 1260 feet levels were resumed yesterday. The 1060 feet level south driven 6 feet 6 inches, total 473 feet 6 inches. Lode matter 8 inches wide, chiefly schist, quartzite, and pyrites. No sample taken. The 1060 feet level north driven 7 feet 9 inches, total 340 feet 3 inches. Lode very pinched. The 960 feet level north driven 13 feet 3 inches, total 309 feet 9 inches. Lode 6 inches wide, assay value 3 dwts. 6 grains. The 760 feet level north driven 7 feet 3 inches, total 556 feet. Lode small and of no value. No. 3 winze 760 feet level north sunk 6 feet 6 inches, total 43 feet 6 inches. Lode 2 feet wide, assay value 4 dwts. 8 grains. The 460 feet level north driven 14 feet, total 473 feet 6 inches. Lode 4 inches wide, assay value 4 dwts. 8 grains. No. 2 winze 460 feet level north sunk 2 feet 3 inches, total 80 feet 9 inches. Lode small and of no value. No. 2 winze 360 feet level north sunk 5 feet 6 inches, total 72 feet. Lode 9 inches wide, assay value 1 ounce 1 dwt. 19 grains. Communicated with 460 feet level north. The 215 feet level south driven 9 feet 6 inches, total 539 feet. Lode 8 inches wide, assay value 5 dwts. 10 grains. No. 1 winze level south from crosscut east 215 feet level north sunk 2 feet, total 17 feet. Lode 6 inches wide, assay value 8 dwts. 17 grains. The 215 feet level north driven 9 feet 3 inches, total 612 feet 9 inches. Lode mixed and of no value. Low's shaft sunk 12 feet, total depth 627 feet 4 inches. The 9.0 feet level south to intersect reef driven 9 feet, total 26 feet. The 810 feet level south from point of intersection driven 18 feet 3 inches, total 354 feet. Lode 6 inches wide, assay value 5 dwts. 10 grains. No. 1 winze 810 feet level south from point of intersection sunk 3 feet 9 inches, total 25 feet 9 inches. Lode 1 foot wide, assay value 6 dwts. 12 grains. No. 2 winze 810 feet level south from point of intersection sunk 2 feet 9 inches, total 18 feet. Lode small and of no value. The 710 feet level north from point of intersection driven 13 feet, total distance 192 feet 6 inches. Branch of quartz 4 inches wide, assay value 9 dwts. 19 grains. No. 1 winze 810 feet level north from point of intersection sunk 3 feet 6 inches, total 24 feet 9 inches. The lode is 1 foot 6 inches wide, assay value 10 dwts. 21 grains. The 710 feet level south driven 1 foot, total 434 feet 3 inches. Lode very small, suspended. No. 2 winze 710 feet level south sunk 3 feet, total 79 feet 3 inches. Lode 1 foot wide, assay value 7 dwts. 15 grains. No. 3 winze 710 feet level south sunk 2 feet 9 inches, total 31 feet 5 inches. Lode 9 inches wide, assay value 3 dwts. 6 grains. No. 2 winze 510 feet level south sunk 4 feet, total 63 feet 3 inches. Lode small and of no value.—Probyn's shaft. 1050 feet level south driven 13 feet 6 inches, total 330 feet. Lode 6 inches wide, assay value 5 dwts. 10 grains. No. 1 winze 1050 feet level south sunk 4 feet, total 75 feet. Lode 6 inches wide, assay value 7 dwts. 15 grains.—Stopes for month of October, Taylor's shaft. Cutting plat at 1060 feet level 4½ fathoms. Back of 860 feet level north stoped 8¾ fathoms. Width of lode 3 feet, assay value 1 ounce 17 grains. Bottom of 760 feet level south stoped 33¾ fathoms. Average width of lode 1 foot 8 inches, assay value 3 ounces 12 dwts. 14 grains. Back of 760 feet level south stoped 20¾ fathoms. Average width of lode 3 feet, assay value 4 ounces 4 grains. Bottom of 660 feet level south stoped 8½ fathoms. Average width of lode 2 feet 6 inches, assay value 4 ounces 8 dwts. 4 grains. Bottom of 560 feet level south stoped 9 fathoms. Average width of lode 1 foot 9 inches, assay value 2 ounces 4 dwts. 15 grains. Bottom of 460 feet level south stoped 39 fathoms. Average width of lode 1 foot 9 inches, assay value 1 ounce 3 dwts. 22 grains. Back of level south from back of No. 4 rise 285 feet level south stoped 8½ fathoms. Average width of lode 1 foot 6 inches, assay value 3 ounces 5 dwts. 8 grains. Bottom of level north from back of No. 4 rise 210 feet level south stoped 6¼ fathoms. Average width of lode 1 foot 6 inches, assay value 9 dwts. 19 grains.—Wallroth's shaft. Bottom of 760 feet level south stoped 31½ fathoms. Average width of lode 2 feet 6 inches, assay value 1 ounce 1 dwt. 6 grains. Back of 760 feet level south stoped 14 fathoms. Average width of lode 3 feet 6 inches, assay value 17 dwts. 10 grains. Bottom of 660 feet level south stoped 22 fathoms. Average width of lode 1 foot 3 inches, assay value 8 dwts. 8 grains. Back of 660 feet level south stoped 5½ fathoms. Average width of lode 9 feet, Assay value 3 ounces 16 dwts, 5 grains. Bottom of 660 feet level north stoped 12½ fathoms. Average width of lode 2 feet 3 inches, assay value 1 ounce 2 dwts. 20 grains. Bottom of 560 feet level south stoped 38¾ fathoms. Average width of lode 3 feet 3 inches, assay value 1 ounce 8 dwts. 20 grains. Back of 560 feet level south stoped 24 fathoms. Average width of lode 1 foot 6 inches, assay value 10 dwts. 8 grains. Bottom of 560 feet level north stoped 18 fathoms. Average width of lode 1 foot 6 inches, assay value 2 ounces 15 dwts. 12 grains. Back of 460 feet level south stoped 13¾ fathoms. Average width of lode 1 foot 6 inches, assay value 14 dwts. 3 grains. Back of level north from crosscut east 460 feet level south stoped 3½ fathoms. Average width of lode 1 foot 3 inches, assay value 5 dwts. 10 grains. Bottom of 460 feet level north stoped 4½ fathoms. Width of lode 1 foot 6 inches, assay value 1 ounce 7 dwts. 3 grains. Bottom of 360 feet level south stoped 38¼ fathoms. Average width of lode 2 feet 3 inches, assay value 1 ounce 6 dwts. 10 grains. Back of 360 feet level south stoped 9¾ fathoms. Width of lode 1 foot 6 inches, assay value 2 ounces 14 dwts. 10 grains. Bottom of 280 feet level south stoped 5¼ fathoms. Average width of lode 2 feet 3 inches, assay value 14 dwts. 17 grains. Bottom of 215 feet level north stoped 17 fathoms. Average width of lode 1 foot 6 inches, assay value 8 dwts. 17 grains.—Low's shaft. Bottom of 710 feet level south stoped 11 fathoms. Average width of lode 4 feet 6 inches, assay value 7 dwts. 1 grain. Bottom of 710 feet level north stoped 10 fathoms. Average width of lode 2 feet 6 inches, assay value 8 dwts. 17 grains. Bottom of 510 feet level south stoped 8¾ fathoms. Average width of lode 2 feet 6 inches, assay value 8 dwts. 3 grains. Bottom of 510 feet level south stoped 5¾ fathoms. Average width of lode 1 foot 6 inches, assay value 13 dwts. 2 grains. Bottom of intermediate level north back of 260 feet level south stoped 5¼ fathoms. Average width of lode 1 foot 6 inches, assay value 1 ounce 3 dwts. 22 grains.—Probyn's shaft. Bottom of 850 feet level south stoped 8 fathoms. Width of lode 1 foot 4 inches, assay value 6 dwts. 19 grains. Back of 850 feet level south stoped 5¾ fathoms. Average width of lode 2 feet, assay value 9 dwts. 19 grains. Back of 550 feet level south stoped 12 fathoms. Average width of lode 1 foot 3 inches, assay value 1 ounce 17 dwts. 13 grains.—Exploratory work. Air shaft sunk 30 feet 6 inches, total depth 82 feet.—Wallroth's shaft. Level south from crosscut west 1060 feet level south driven 10 feet 9 inches, total distance 50 feet 3 inches. The branch of quartz apparently has ended abruptly. We have searched for it both east and west of drivage, but found no sign of any reef, therefore it is suspended.—Munday's lode explorations. 280 feet level south driven 4 feet 3 inches, total 149 feet. Lode 1 foot wide, assay value 4 dwts 8 grains.—Low's shaft. Crosscut west at 810 feet level south from point of intersection driven 11 feet 3 inches, total 30 feet 6 inches. No discovery, therefore suspended. During the month of October we crushed 5930 tons of stuff, which produced 4295 ounces of gold. In addition to this 5343 tons of tailings were treated, which yielded 741 ounces of gold, total return 5037 ounces of gold.

AMERICAN.

TOLIMA.—The company have received advices by the mail of November 10 from their mines, of which the following is an abstract: From estimated September returns, 120 tons (fine silver, valued at 2s. 9d. per ounce) £4930 11s. 3d., cost £3594 2s. 4d., profit £1342 8s. 11d. The underground agent reports 107 fathoms 4 feet 9 inches of ground expended, of which 83 fathoms 4 feet 7 inches were productive, leaving of unproductive ground 24 fathoms 2 inches. The acting superintendent, writing under date of October 13, draws attention to the fact that the September returns show an estimated profit, £2442, in excess of the amount stated in the cable-message of October 5 last. He further draws attention to the following points of interest in the operations of the month. At the 140 fathom west end, mineral assaying 396 ounces to the ton was extracted during the month, though at date of writing that value was not maintained. The 130 fathom west rise gave during September 10 cwts. per fathom, a sample of which on assayed 604 ounces per ton. The 110 east winze north branch also yielded 10 cwts. per fathom of ore, assaying 320 ounces fine silver per ton. In the 110 west back stope a promising branch of mineral was struck giving 15 cwts. of ore to the fathom; and this has been risen upon and carried some feet above the level of the 90 fathom level. Driving was started west on a small branch of the lode from the 120 fathom east winze, which opened out and has given up to 1 ton of mineral per fathom, assaying 196 ounces of fine silver per ton.—New crosscut. No special reference is made to this exploratory work by the acting superintendent, but in the underground report the mining captain specifies the work done during September and explains his views of the prospects offered. A most satisfactory feature in the month's operations is the excellent returns obtained in the 150 fathom level, where back stope No. 1a yielded 3 tons of mineral per fathom of 300 ounces ore and back stope No. 1b yielded 6 tons of mineral per fathom also of 300 ounces ore.—Underground report. Engine shaft was sunk 5 feet in unproductive ground. In the present bottom, which is 24 feet below the sole of the 160 fathom level, there is another portion of lode dropped into the shaft from the south or footwall side, and between this and the hanging wall of the lode as carried in the shaft these are 8 feet apart. Taking into consideration that the lode at and below the 160 fathom level often gave some good portions of mineral, and seeing that the tendency of those branches of the lode that dropped off to the south of the shaft in the upper levels is to converge into the portion as carried in the shaft and as seen in the present bottom, and in conjunction therewith, looking at the cougenialness of the country rock and the lode stuff in general, I am convinced that with deeper sinking a more profitable and productive lode will be met with. Sinking was suspended at the end of the second week, and the men were put to cut a tip plat at the 160 fathom level towards which 9 feet of ground was taken out. 150 fathom east end from engine shaft was driven 7·5 feet on company account. 160 fathom west end from 150 east winze was driven 10 feet by four men at $75 per fathom, and same is communicated with the above end, and the lode generally gave some good bits of mineral. We are now preparing to drive upon the course of the lode from the east end of the above winze, which will be the 160 main east level. 150 fathom west end footwall side was driven 9·5 feet by two men at $75 per fathom, thus being 207·9 feet as total west of the winze (150 east), and the lode is without change. 150 fathom west back stope No. 1 was stoped 8 feet by two men at $30 per fathom, and it yielded 16 cwts. of mineral per fathom. 150 fathom west back stope No. 1a was stoped 30 feet by four men at $25 per fathom, and it yielded 2 tons of mineral per fathom. 150 fathom west back stope No. 1b was stoped 29·7 feet by four men at $25 per fathom, and it yielded 6 tons of mineral per fathom. 150 fathom east end was driven 7 feet by two men at $30 per fathom, thus being 200 feet as total east of the 150 east winze, and the lode is unchanged. 150 fathom east back stope No. 1 was stoped 44 feet by two men at $13 per fathom, and it yielded 2 tons of mineral per fathom. 140 fathom west end was driven 11 feet by two men at $25 per fathom, thus being 332·5 feet west of the engine shaft, and it yielded 8 cwts. of mineral per fathom, and the forebreast yet contains a very promising lode. 140 fathom east end was driven 275 feet by four men at $70 per fathom, thus being 5·33 feet as total east of the engine shaft, and the lode in forebreast is strong and decidedly promising. 140 fathom east back stope No. 1 was stoped 17·5 feet by two men at $12 per fathom, and it yielded 2 tons of mineral per fathom. 130 fathom west end was driven 15 feet by two men at $70 per fathom, being 9 feet that yielded 18 cwts. of mineral per fathom. It is 775·7 feet as total west of the engine shaft and the last 6 feet of the above was in rather poor ground, yet the lode in forebreast is giving some good bits of mineral, and the general prospect is highly encouraging for further improvement. 130 fathom west rise was risen 9·5 feet by two men at $30 per fathom, this being 21·5 feet above the roof of the 130 level, and the lode yielded 10 cwts. of mineral per fathom. 130 fathom west back stope No. 1 was stoped 30 feet by two men at $30 per fathom, and it yielded 10 cwts. of mineral per fathom. 130 fathom east end from the 120 east winze No. 2 was driven 34·5 feet by four men at $55 per fathom. The first 15 feet yielded 1 ton of mineral per fathom and the mineral was generally stronger in the roof than in the sole of the level. The forebreast is 13·5 feet east of the winze, and the last 16·5 feet of same has been in poor ground. 110 fathom east back stope No. 3 was stoped 49 feet by four men at $23 per fathom, and it yielded 2 tons of mineral per fathom.—120 fathom west end. Owing to bad ground the men have been engaged timbering the level. 120 fathom west back stope No. 1 was stoped 37·3 feet by two men at $30 per fathom, and it yielded 2 tons of mineral per fathom. 120 fathom west back stope No. 3a was stoped 49·1 feet by two men at $26 per fathom, and it yielded 1 ton of mineral per fathom. 120 fathom east winze north branch was sunk 7·7 feet by four men at $125 per fathom, thus being 38·7 feet as total below the sole of the 120 fathom level, and the lode continued poor. 120 fathom east back stope No. 1 north branch was stoped 37·5 feet by four men at $22½ per fathom, and it yielded 2 tons of mineral per fathom. 120 fathom east back stope No. 2 north branch was stoped 15 feet by two men at $40 per fathom, and it yielded 10 cwts. of mineral per fathom. 110 fathom east end was driven 9·5 feet by two men at $70 per fathom, thus being 1180·9 feet as total east of the engine shaft, and the lode is unchanged. 110 fathom east winze north branch was sunk 8·3 feet by four men at $125 per fathom, thus being 248 feet as total below the sole of the 110 fathom level, and it yielded 10 cwts. of mineral per fathom. 110 fathom east back stope No. 1 north branch was stoped 20 feet by two men at $35 per fathom, and it yielded 10 cwts. of mineral per fathom. 110 fathom west back stope No. 1 north branch was stoped 20 feet by two men at $22 per fathom, and it yielded 1 ton of mineral per fathom. 100 fathom west back stope was stoped 36·6 feet by two men at $22 per fathom, and it yielded 1½ cwts. of mineral per fathom. 90 fathom east end was driven 16 feet by two men at $50 per fathom, thus being 1332·3 feet as total east of the engine shaft. The lode lets out much water, and it is generally promising. 90 fathom east bottom stope stope No. 1 was stoped 16·5 feet by two men at $22 per fathom, and it yielded 2 tons of mineral per fathom. 90 fathom east bottom stope No. 1a was stoped 25 feet by two men at $13 per fathom, and it yielded 3 tons of mineral per fathom. Shallow adit was driven during a part of the month 7 feet by four men and a boring machine at $30 per fathom, thus being 546·5 feet as total west of the crosscut, and the lode is without change to note. We had eight men per day during the month grading 220 feet of tram and level and relaying the tram road. New crosscut, west end footwall side, was driven 10 feet by four men at $30 per fathom. It is in a tight bar of ground, and as a consequence the lode is much pinched, yet it often yields some good stones of mineral, and the prospect generally is favourable.—Real de Friar. 25 fathom west end was driven 14 feet by two men at $55 per fathom, thus being 158 feet as total west of the shaft, and the lode continues poor. 25 fathom east end was driven 15 feet by four men and a boring machine at $70 per fathom, thus being 285 feet as total east of the shaft, and the lode is without change to note.

NUEVA ESPERANZA.—The mine superintendent reports, under date October 21, as follows: Washing was continued during the month with the available water in the new opening, and I cleaned up on 0 October 11, after washing 390 hours. The gross returns are $2430, leaving a profit of $300 (gold).—Run No. 15. This is being taken from the same opening, viz., new opening in Soto Mine. Our water supply has increased, and the ditches, syphons, and reservoir are in good order.

THE NORTHUMBERLAND MINERS' CONCILIATION BOARD.—A meeting of Northumberland miners' delegates in Newcastle on Monday decided to ask the county to re-establish the Conciliation Board. A proposition to join the Federation of Miners was rejected, only 11 voting for it out of an attendance of 45 delegates.

TEIGN VALLEY MINING COMPANY (LIMITED).—On and after Monday, the 23rd inst., the registered offices of this company will be situate at No. 10, Coleman-street, London, E.C.

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Offices, Liskeard, Cornwall, writes November 26:—The Mining Market is quiet, and prices generally are a shade easier on the unexpected decline in the tin standard, with a limited amount of business. To-day tin shows more firmness. Quotations:—Basset United (Limited), 17s. 6d. to 18s. 6d.; ditto (5s. paid), 4s. 6d. to 5s.; Blue Hills, 1s. 6d. to 2s.; Carn Brea United (Limited), 2s. to 2s. 6d.; Devon Consols, 17s. to 18s.; Dolcoath (Limited), 16s. 6d. to 17s. 6d.; ditto (10s. paid), 7s. to 7s. 6d.; East Pool, 20s. to 21s.; Killifreth (Limited), 2s. to 2s. 6d.; Levant, 3 to 3⅛; Polberro, 5s. to 6s.; West Kitty, 2⅛ to 2⅜; Wheal Grenville, 4⅛ to 5; Wheal Kitty, 4s. to 5s.; Wheal Metal, Limited (3s. 6d. paid), 1s. 6d. to 2s.

Messrs. ABBOTT and WICKETT, Stock and Share Brokers and Mining Share Dealers, Redruth, write under date of November 26:—The market has been very quiet this week, and not many transactions have been recorded, but prices show but little or no alteration. Dolcoath about 17s. 3d.; East Pool, 21s.; Grenville, 5s.; Basset Mines, 18s. 6d. Quotations herewith:—Blue Hills, 1s. to 2s.; Basset Mines (fully paid), 17s. 6d. to 18s. 9d.; ditto (5s. paid), 4s. 6d. to 5s. 6d.; Dolcoath (fully paid), 16s. 6d. to 17s. 6d.; ditto (7s. 6d. paid), 4s. to 5s.; East Pool, ⅞ to 1⅛; Killifreth, ¼ to ⅜; Polberro, ¼ to ⅓; West Kitty, 2⅛ to 3; Wheal Grenville, 4⅛ to 5⅛; Wheal Kitty, ⅛ to ¼.

MANCHESTER.

Messrs. JOSEPH R. and W. P. BAINES, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write November 26 (noon):—During the past week foremost markets have proved irregular, as, whilst home rails, with the single exception of Great Westerns, mark better figures (and in the case of Brighton A distinctly so), Americans, Canadians, and Mexican rails show another unbroken list of declines. The heaviest depreciation is in the most active Americans, Milwaukees being well to the front, as well as Atchison issues, Denver Preference and Louisvilles. For the rest the declines range up to a dollar. American rails, though lower, are not much so, and only on Ordinary and Second Preference. Canadian issues show most depreciation on Second Preference, First Preference, and Guaranteed, but the later issues down to Ordinary's are all more or less lower. It would appear that the public on this side have not been drawn into buying Americans, notwithstanding their boom on the election, hence operators, being without public support have let prices slip away. The reverse is the case with regard to home rails, for with the prospect of money remaining unchanged, if not absolutely being easier, investors have apparently turned their attention to this department. Although Consols are not now so much the distinct pulse of the market as they once were, having come into the region of speculation, they still have a sympathetic effect on home securities, but it is noteworthy as showing their somewhat changed condition that whilst Two and Three-quarter per Cent. quote 1 to 1-16 better, the general move in home rails is not more than we have to chronicle this week. Colonial stocks, &c., only show declines ranging from ¼ to 1 and they are few at that. In Corporation stocks and debentures Manchester Four per Cent. quote rather higher, and Nottingham Three per Cent. are 1 down, these being the only changes of note. Foreigners show a fair number of advances in price, in which, as regards Europeans, the only thing worth mentioning is a further rise in Italian Rentes of 1¼, along with a strengthening in Argentine issues and Brazilian Four and a Half per Cent. On the other side, it is only in Egyptian Unified and Uruguay Three and a-Half per Cent. where declines are marked. In the several classes of shares banks and insurance are for the most part better where altered, but in the latter there is a respectable minority where lower prices (in small fractions) are marked. Coal and iron very little altered. Breweries irregular on small turns. In miscellaneous proper nothing to draw special attention to. Full details of alterations given below:—

ENGLISH RAILS.—Higher: Great Easterns, 1½; York Deferred, ½; Lancashire and Yorkshire, ½; Brighton A, 2⅜ to ½; Chathams, ½; London and North Western, ½; Saras, ½; Districts, 1; Midlands, ½; North British, ½ to ⅝; Berwicks, ½ to ⅝; Dover A, 1½.—Lower: Great Westerns, ⅝.

CANADIANS AND AMERICANS.—Lower: Atchison Ordinary, 1⅛ to 1½; ditto Preference, 2½; Canadian Pacifics, ½; Grand Trunks, ⅛ to 3-16; ditto Guaranteed, 1; ditto First Preference, 1½; ditto Second Preference, 1 to 1½; ditto Third Preference, ½ to ⅝; Mexican Rails, ½; ditto Second Preference, ½; Central Pacifics, ½ to ⅝; Milwaukees, 2½; Denvers, ⅝; ditto Preference, 1⅜; Louisvilles, 1⅜; Missouris, ⅜; New York Centrals, ⅝; Erics, ½; Ontarios, ½; Norfolk Preference, 1; Union Pacifics, ⅝.

CONSOLS.—Higher: Two and Three-quarter per Cent., 1 to 1-16.

COLONIAL STOCKS, &c.—Lower: Canada Registered 1; New South Wales Inscribed, ½; Victoria Inscribed, ½.

CORPORATION STOCKS AND DEBENTURES.—Higher: Manchester Four per Cent., ⅛ to ¼—Lower: Nottingham Three per Cent., 1.

FOREIGNERS.—Higher: Argentine Six per Cent., 1½; ditto Five per Cent., 1; Brazilian Four and a-Half per Cent., 1 to 2; Italian Rentes, 1¼; Portuguese Three per Cent., ½; Spanish Four per Cent., ½; Turks, D, ½.—Lower: Egyptian Unified, ½; Uruguay Three and a-Half per Cent., ½.

BANKS.—Higher: Districts, ½; Mercantile of Lancashire, 1 16; National Provincial, ½; Parr's, ⅛ to ½; Union of Manchester, ½; Western District and Manchester and Salford Bank, ½.—Lower: Bank of Bolton, ½.

INSURANCE.—Higher: British and Foreign Marine, ½; Maritime, 1-16; Palatine, 1-16 to ⅛; Reliance Marine, 1-16; Thames and Mersey, 1-16; Union Marine, 1-16.—Lower: Liverpool, London, and Globe, ½; London and Lancashire, 1-16; Manchester Fire, 3-16; Royal, ½.

COAL, IRON, &c.—Higher: John Browns, ½; Parkgates, ½.—Lower: Ebbw Vales, ½; Nantyglo Preference, 1; Rhymneys, 6d.; ditto New, 6d.

TELEGRAPHS AND TELEPHONES.—Higher: Easterns, ½.

BREWERIES.—Higher: Boddington's, ½; Manchester, ½.—Lower: Allsopps, 1; Farnham, ½.

MISCELLANEOUS.—Higher: Coats, ½; Milner's Safe, ½ to ⅝; Star Paper, ½.—Lower: Blackpool Towers, 6d.; Brunner Monds, ½; Salt Union, 1-16 to ⅛; Gas Light A, 1; Northern Assets, 1s.; Manchester Carriage A, 1; ditto B, ½.

LATER (4 P.M.).—Very little doing to-day all round; home rails a turn harder, whilst other departments of rails are mostly altered on the downward side. Mines, after opening a little better, fell away slightly from the best points touched.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, Stockbroker and Ironbroker (November 26), writes:—During the past week the markets have been better on the cessation of forced selling, and the easier state of the money market. The feeling of anxiety as to foreign politics has almost subsided. Trade reports continue satisfactory. At the intervening fortnightly settlement the speculative position was found to be in a much more healthy condition, partly due to weak accounts having been closed and "bear" accounts opened.

In shares of coal, iron, and steel companies prices are steady. The Calmtable Company announces a dividend of 5 per cent., against 7½ per cent. last year. African Coal are at 3s., Cassel 38s., Marbella 28s., Niddrie 40s., and Steel Company of Scotland 6½.

In shares of copper concerns there is not much alteration to notice owing to the inactive state of the market for the metal. Arizona, Tinto and Tharsis steady.

In shares of gold and silver mines a fair amount of business has been done, and prices show a substantial recovery from the recent depression, partly due to the cessation of forced selling and the more amicable statements from the Transvaal Government. Chartered, owing to the success of the new issue, advanced to 47s. 6d. Consolidated have advanced from 7 9-16 to 8 7-16, East Band from 70s. to 88s. 9d., and Randfontein from 36s. to 48s. 6d. Sheba improved to 42s., as it is expected the company will shortly announce a good dividend. Broken Hill advanced to 52s. 6d. on rumours that the monthly dividend will be resumed, although the price of the shares from Melbourne does not seem to confirm this. A good deal of business has been done in Gleeson's Success shares which advanced to 20s. 3d. on a cablegram announcing a rich strike at the mine, but they have since dropped to 12s. 6d., a movement which is causing some comment. Afrikander, 23s. 9d.; African Estates, 25s.; African Recovery 13s.; Almada, 1s.; Anglo-African Gold Properties, 12s. 6d.; Bantjes, 49s.; Bayley's No. 2 South, 8s.; Brilliant and St. George, 32s. 6d. to 35s.; Croydon Consols, 10s. 6d.; Chaffers, 3s. 3d.; Crown Point, 17s. 6d.; Doornkop, 3s. 6d.; Emma, 1s. 3d.; East Nigel, 2s. 6d.; Eastleigh, 14s.; First Find, 3s. 3d.; Florence, 16s.; Great Boulder Main Reef, 27s. 6d.; Gwelo, 1s.; Gold Fields of Mozambique, 10s.; Golden Arrow, 12s. 6d.; Great Boulder South, 14s. 6d.; Hauraki Associated, 3s.; Hainault, 10s. 6d.; Hannan's Star, 21s. 3d.; Heidelburg Estate, 6s. 3d.; Hannan's Croesus, 10s. 6d.; Hannan's Oroya, 22s.; Joker Proprietary, 2s. 6d. dis; Jubilee, 3s. 3d.; Kimberley Roodepoort, 45s.; Klerksdorp, 9s.; Kapanga, 11s. 6d.; Kempinkote, 1s. 9d.; Lady Shenton, 41s. 3d.; Lisbon, 5s. 3d.; Lake View and Boulder Junction, 12s. 6d.; Lake View Extended, 17s. 6d.; Mount Margaret, 26s. 3d.; Mainland Consols, 42s. 6d; North Croydon, 3s. 9d., Northern Wealth of Nations, 4s.; Northern Territories, W.A., 65s.; prem; New Queen, 7s. 6d.; Ophir, 2s. 3d.; Pestarena, 5s. 9d.; Port Phillip, 6d.; Princess Royal, 3s. 9d.; Paarl Central, 22s. 6d.; Rhodesia, 20s. 9d.; Royal Oak, 2s. 6d.; Triumph Hauraki, 2s. 3d.; Violet, 17s.; Wentworth, 13s. 6d.; West Australian Trading, 6s. 6d.; West Australian Loan and General Finance, 41s.; White Feather Main Reef, 6s. 3d.

In shares of miscellaneous companies there is not much alteration to notice. In oil companies, Broxburn are at 9⅜, Pumpherston 6⅜, and Young's 28s. 6d. Nobel Dynamite 18½, and Roburite Explosives 50s.

EDINBURGH.

Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of November 26:—In home railways, Caledonian Deferred and North British have been rather unsettled since the date of last week's report. Highland has fallen from 96 to 93¾. In Insurance shares there are few changes of much importance. Scottish Accident have declined 1s., and Banks have been in demand. Clydesdale have risen from 20½ to 21, Commercial from 80 to 81, National from 363 to 377, Royal from 225 to 227, Union from 22 to 22⅜. Steel Company of Scotland shares have changed from 123s. to 122s. 6d., Rio Tinto from 25¼ to 25, Young's Paraffin from 29s. 6d. to 28s. 6d., Arizonas from 54s. 3d. to 55s., Oakbank Oil from £6 to £6 13s. 9d., Edinburgh United Breweries have advanced from 13 9-16 to 14½.

THE IRON AND STEEL MARKETS.

Messrs. JOHN STEVENSON and COWPER'S weekly report, dated from Middlesbrough, November 26, states:—The Glasgow market has been subject to rather violent fluctuations lately, and has only partially recovered from one of the depressions caused by large speculative selling. The price of warrants is the point of appui on which pig iron is centred, and forms the base of outside dealers' operations; consequently, they have been taking lower prices. On the other hand, makers maintain their quotations and are booking orders at the best figures. Their position is strong. Home consumption is heavy, and shipments up to last night reached 107,549 tons, an unusually large quantity for November, and 18,000 tons more than the same period in October. Besides, the production is lessened by the blowing out of three furnaces in the district, and it is an open secret that stocks at works are being sensibly reduced. No. 3 pigs are 40s. 6d. to 41s. for this year's delivery, and hematite 49s. 6d. to 50s. Alabama foundry pigs are being offered at 58s. on this market, but in the face of the above home prices they are not taken. Rolled iron and steel continue in full demand at late rates, and the mills keep very busy. Spanish ore is firm, notwithstanding the general collapse in freights, and only requirements for present needs are changing hands. Coke and coal are unaltered, Northumberland steam being at its lowest, and only equal to best Durham screened. The Durham closed this afternoon—"steady, fair business." Scotch, 48s. 9½d.; Cleveland, 40s. 9d.; Cumberland hematite, 50s. 9½d; and Middlesbrough hematite, 48s. 10½d. cash buyers.

Messrs. BARRY, HEAD and Co.'s weekly report, dated 26, Lombard-street, E.C., November 25, states:—The pig iron market at Glasgow is strong, while in Middlesbrough it is quieter, though the tone is fairly satisfactory, as it is generally believed that the easing of prices will be only temporary, and that such a lull might well be looked for after such heavy buying. Finished goods in quieter request, though not sufficiently so to materially alter prices last reported.

WILLOUGHBY'S CONSOLIDATED COMPANY (LIMITED).

An annual general meeting of this company was held at Cannon-street Hotel, on Monday.—Mr. A. Weston Jarvis, who presided, expressed his regret that Lord Dunraven had found it necessary to resign his position as Chairman of the company, owing to increased work in connection with the London County Council and politics. It was under pressure from Sir John Willoughby that his lordship originally consented to occupy the chair, and they were deeply indebted to him for his services in the early stages of the company. They had also lost by death their colleague, M. De Falbe, and Mr. Jefferson Clark, their consulting engineer, whom they had replaced by Mr. Walter Carrie. Sir John Willoughby undertook the duties of managing director of the company for two years from April, 1895, but on his return to England in February of this year, under unforeseen circumstances, he felt that he could not satisfactorily continue his position, and Colonel Hayman had been chosen to act in his place for a period of five years. The meeting had been delayed in consequence of the difficulties which had prevailed in Rhodesia, but these difficulties had now been overcome. The expenditure had been entirely on capital account, and had been conducted with the greatest regard to economy and the eventual success of their great undertaking. He had recently returned from Rhodesia, where he had had an opportunity of seeing their large properties. He visited the Dunraven and Bonsor Mines last March, before the rising, and at that time the position was most favourable, and, except that the work had been delayed, there was nothing to alter the position up to the present time. He regarded the rinderpest as a greater scourge than the native rising, but he anticipated great results from the Bechuanaland Railway. He added that their company had lost absolutely nothing, either by the rising or the rinderpest, except the time, as the Chartered Company had behaved with the greatest beneficence. All the money had been paid for the stores looted and the cattle lost, and in a general way he testified to the wealth of the country in which their property was situate, paid a warm tribute to Mr. Cecil Rhodes and Lord Grey, acknowledged the loyalty of their staff in the time of emergency, and said that every necessary step had been taken to develop the property.

KLERKSDORP REEFS (LIMITED).

A meeting of the shareholders of the Klerksdorp Reefs (Limited) was held on Monday at the offices, Broad-street House, E.C. The representatives of the Press were excluded.

MINING IN CORNWALL AND DEVON:

NOTES ON MINING IN THE WEST.

(FROM OUR OWN CORRESPONDENT.)

CORNISH mining has suffered much from causes over which no one in the county or out of it has any control, but it has also suffered to a very serious extent from circumstances which ought never to have arisen—which never would have arisen if those concerned had shown more of the give and take spirit which was never more desirable than at the present time. The wretched wrangle between East Pool and Wheal Agar was an instance of the mischief which may arise from over eagerness to drive a hard bargain; and now we have a further manifestation of the same tendency in a quarter whence better things might reasonably have been expected. Mr. Fortescue, the lord of West Frances, which sett the Basset Mines Committee wish to acquire, insists on the condition that all the mineral raised from the mine shall be returned on the surface of it, and that the streams shall be allowed to follow their present course. Attempts have been made to induce Mr. Fortescue to reconsider the matter, but they have been without result, and at a meeting held last Saturday the Basset directors decided not to proceed further with the attempt to procure the West Frances property. Mr. F. Oats, who has so large an interest in the Basset Mines, and who is now in Kimberley, has written a letter in which the matter is put very temperately and cogently. He points out that the directors would be acting very wrongly if they bound themselves for all time to stamp all West Frances stuff separately. When their only hope of competing successfully with foreign tin producers lies in centralising their operations for hauling, pumping, and stamping, and also to do a greater number of tons of stuff with less establishment and contingent charges, Mr. Oats hints that if Mr. Fortescue persists in enforcing this condition, he may, if the price of tin does not improve, cease to take any interest in an industry which is handicapped by the perversity of individuals, as well as by prevailing economic conditions. The withdrawal of a man of Mr. Oats' calibre from Cornish mining at the present juncture would be nothing short of a calamity, and we hope that he will not put his threat into execution, but such conduct on the part of the lords, if persisted in, is certain to drive away those capitalists who are still standing by the industry, and to prevent others from taking an interest in it who might otherwise be induced to do so. It is probable that West Frances shareholders will be called together to discuss the situation created by the withdrawal of the Basset directors' offer. They are in such a position that they cannot afford to wait for an indefinite period, and if the mine is abandoned entirely, its water will certainly drain into the Basset sett. Trouble of the kind with which all are familiar who have any acquaintance with the recent history of the district would probably ensue, and it was mainly with a view to guarding against these contingencies that the Basset directors decided to negotiate for the purchase of the sett. It was obviously the best thing that could happen in the interests of both bodies of shareholders, and Mr. Fortescue will incur a serious responsibility if he adheres to a decision which will make it impracticable.

OF all the odd schemes for restoring prosperity to Cornwall which have seen the light during the period of depression, surely that for which a Mr. T. J. Barnard, of Goldsithney, is responsible is by far the oddest. Mr. Barnard has issued circulars broadcast, in which particulars are given of the "Proposed One and All Mining Assurance Consols (Limited)," of which Mr. Barnard is "pioneer and secretary." Mr. Barnard has three strings to his bow. He proposes to "blend life assurance with the ancient pursuit of mineralogy," and also to exploit an improvement which he describes as "simplicity itself" in the present system of sewage disposal. Mr. Barnard desires it to be understood that "whatever may be described will be fully accounted for," but whether this personal guarantee of *bona fides* will be deemed sufficient by the public to whom he appeals admits, we should imagine, of very considerable doubt.

WANTED.

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VICTORIAN GOLD MINING.

By THOMAS CORNISH, M.A.I.M.E.,
Author of "Our Gold Supply."

IT is satisfactory to know that the Victorian Government are at last waking up to the importance of giving a little extra attention to the gold mining industry. The present Minister of Mines, Mr. H. Foster, M.P., appears to be infusing new life into the Mining Department, which had fallen into a sluggish groove for some time, especially since the stoppage of issuing the quarterly reports. The decision of the Government to advance a sum of £140,000 in annual driblets, while very good in its way, is not enough to meet the importance of the question. However, the mining community must be thankful for small mercies. Having created an unprecedented wealth of about £260,000,000 sterling in gold, and raised the colony from a mere sheep walk and quiet obscurity into the most important, influential, and prosperous of the Australian colonies, the mining industry, through local apathy and neglect, was allowed to fall into a comparatively low state of prosperity; but still, much as the gold fields were neglected, the annual yield of gold has kept ahead of other colonies with the exception of one or two extra years in Queensland.

I find on reference to an old address I issued to the electors for the Mining Board election, February, 1863, I specially advocated a complete reform of our then mining laws, and said—"It is highly necessary that every encouragement should be held out to the colonial and English capitalists to invest their capital in gold mining, as with proper security of tenure it offers a field for safe and profitable investment for a large amount of capital, and the greater the inducements held out to the capitalists to invest the greater will be the benefit to the mining community at large."

The reform in the mining laws was ultimately carried out on the lines I then laid down, but after much agitation and discussion. I also boldly advocated the combination of capital and labour to carry out large undertakings with greater economy and effectiveness so as to avoid the great loss of time and labour so often wasted. I was then, as now, known as the great advocate of amalgamation of small areas of ground into proper sized claims both on the alluvial leads and quartz reefs, to put more effective machinery on mines, and to sink large shafts to great depths on the well-proved lines of quartz reefs, and thoroughly develop the mines by systematic crosscutting. In 1870 I endeavoured to establish a company with the object of supplying machinery to working miners on terms of a percentage of the gold won and the erection of batteries for public crushing on gold fields where wanted, but the leading merchants, bankers, and others as also the Government, would then lend no assistance to the development of gold mining on sound business lines. Now, after a quarter of a century of a gradual decline in the numbers of miners employed, and a consequent diminution of the yields of gold, and the failure of land booms and silver booms in Melbourne to create permanent prosperity to the colony, they now find that they have to fall back on gold mining and the development of the long neglected gold fields, many of which have been practically deserted for the past 25 or 30 years.

In the seventies by a series of letters I drew attention to the importance of deep sinking in the various proved lines of reefs on Bendigo, Ballarat, and other fields, as also that Government should aid the development of mining districts by tunnelling into well known auriferous ranges, and boring to prove the trend of alluvial leads.

Much of this work has I know been successfully carried out, and much valuable information is now afforded to mining investors, but much more yet remains to be done in that direction. The narrow-minded policy of letting slip every opportunity of drawing attention to the value of the Victorian gold fields has been a great drawback to the colony. Thus, in 1878, I proposed to the Government and Commissioners of the Paris Exhibition the making of a great display of our mineral wealth there, and the erection a quartz crushing mill with gold saving appliances, but the proposal, although appreciated by the mining community, was not supported by the authorities as it should have been at the time, jealousy, as usual, stopping the way. Then again, in 1885, I prepared a complete scheme for making a great display of the mineral wealth of Victoria and other colonies, by the erection of a 10 stamp mill at the Colonial and Indian Exhibition of 1866. My proposal met with the hearty approval of the committee, and space was offered me on condition that I could arrange to get several colonies to unite to make one great display without creating jealousy, as the committee would not grant the space for the erection of a 10 stamp mill, as I proposed, for any one colony.

I then prepared a complete scheme, which offered no grounds for jealousy on any point, whereby all the colonies could unite on a common basis. I called a meeting of the Agents General of the several colonies to meet at the office of the Agent General of Victoria, which they did, and I laid my proposal before them, and requested that they should form themselves into a committee to carry through this joint enterprise with me, as I could arrange for the supplies of quartz from the various mines that would have exhibited, as also the quartz mill, at little or no cost but carriage. Unfortunately, our sapient representatives could not see their way to act together for a joint benefit to the colonies they represented, and through jealousy, apathy, or want of sympathy with the gold mining interest, Victoria lost the opportunity of making its gold resources properly known.

Queensland, through its enterprising Agent General—Mr., now Sir James Garrick, K.C.M.G.—took advantage of my proposal, and the apathy of the other Agents General, by carrying out the idea in a smaller way for Queensland, and the mining representatives of that colony gained the profits and advantage of bringing their gold resources to the front by following out my proposal. They played a lone hand and won! For many years I have been practically the only persistent advocate of Victorian gold mining in England, and had to work under the cold shade of opposition from the paid representatives of the colony, while our leading financial and mercantile men who are deeply interested in the colony have not supported gold mining. The bursting up of so many banks for the want of more gold has opened their eyes to the follies of land booms and paper financing that brought so much ruin and woe to the community.

Now that the importance of gold mining has become so apparent—even many of our great financiers are beginning to see that gold cannot be manufactured from paper, nor does it rain down like manna, but must be mined from the earth before the necessary supply of new sovereigns can be added to our national wealth—people are arousing to the fact that there is such a place as Victoria and the fact that £260,000,000 sterling in gold having been raised there is a reality. That its output is more than twice the amount of gold produced by all the other colonies, and they must also understand the Victorian gold fields are not yet worked out.

As your Melbourne correspondent truly said, any quantity of people are rushing off to London with their carpet bags stuffed with papers and reports of gold mines, as they anticipate the next boom to be in Victoria.

We don't want booms that quickly burst up, but good steady investment in legitimate gold mines that offer something like a certainty of paying well for proper working. We don't want to be inundated with wild cat schemes by mining nonentities who combine business with pleasure in rushing to London with immature proposals.

METAL PRODUCTION OF THE WORLD.—According to the *Echo des Mines*, during the year 1894 there were produced, in tons:—Iron, 20,000,000; lead, 600,000; zinc, 360,000; copper, 300,000; tin, 30,000; nickel, 10,000; silver, 4000; antimony, 1500; aluminium, 500; gold, 180; platinum, 5.

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REPORTS AND EXAMINATIONS ON MINES
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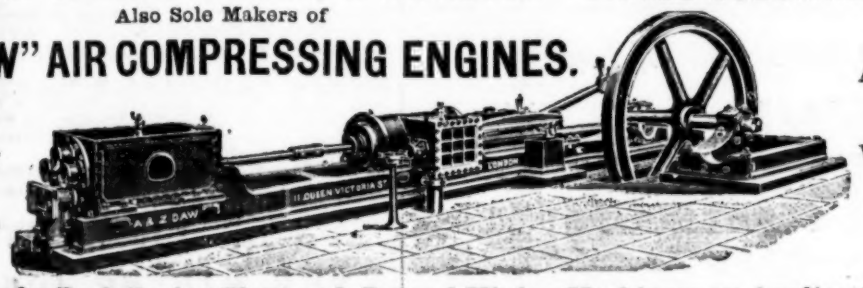

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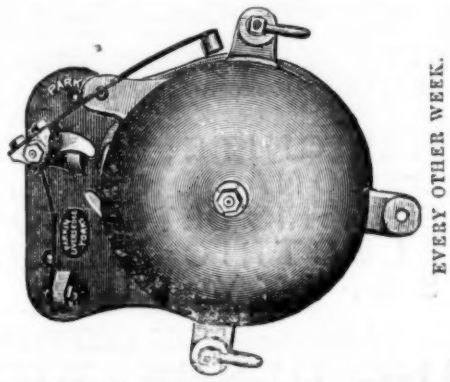

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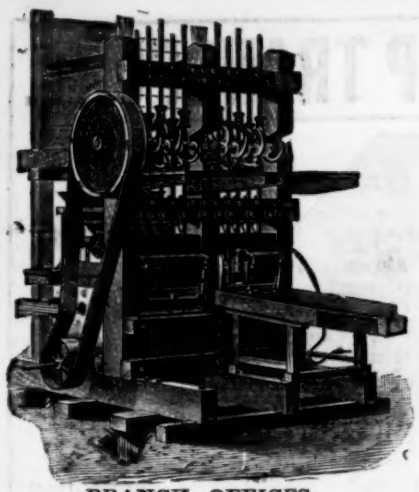

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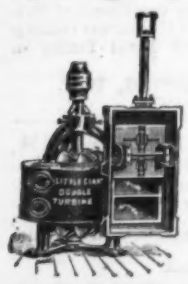

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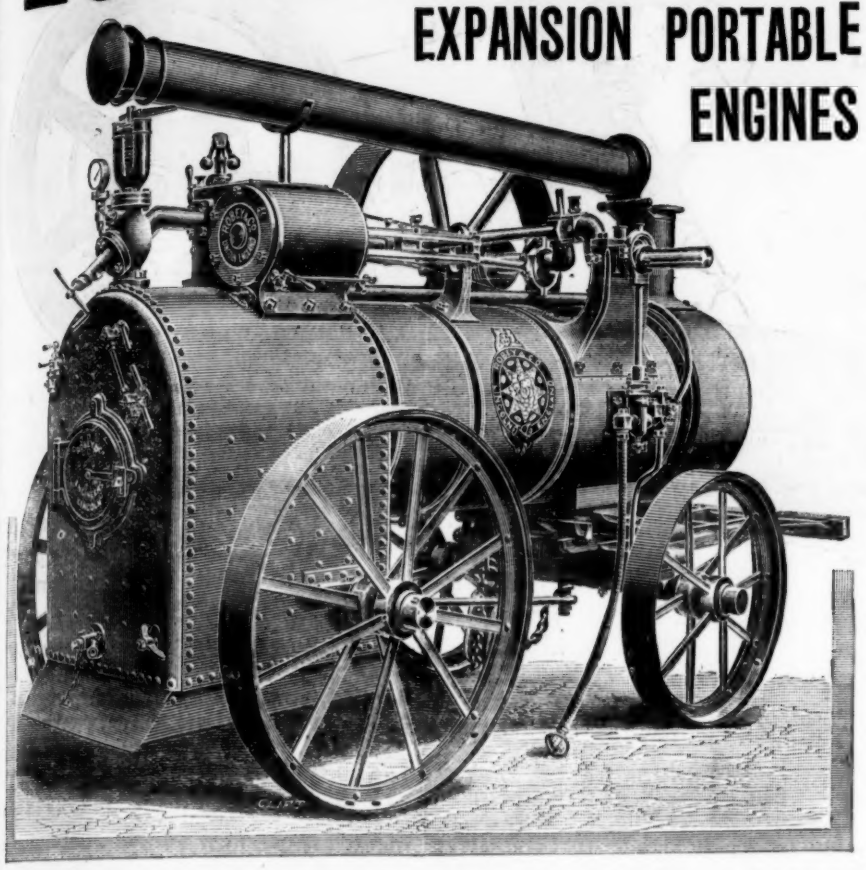

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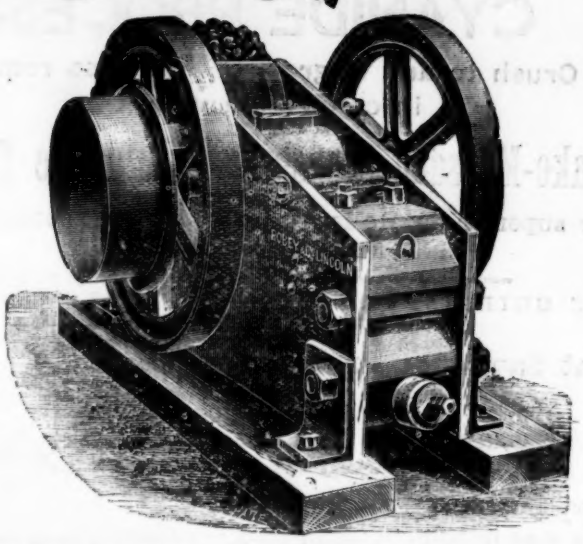

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EDITORIAL AND ADVERTISEMENT OFFICES:—15, FINCH LANE, E.C.
Printed for the Registered Proprietors by James Robert Gale, at their Printing Offices 3, Dorset Buildings, Salisbury Square, in the Parish of St. Bride's, in the City of London.—November 28, 1896.